ROYAL BOTANIC GARDENS, KEW.

BULLETIN

OF

MISCELLANEOUS INFORMATION.

No. 10.] [1911.

LIII.—CONTRIBUTIONS TO THE FLORA OF SIAM.

II. List of Siamese Plants, with Descriptions of New Species—*continued.**

W. G. Craib.

GAMOPETALAE.

Caprifoliaceae.

Viburnum atro-cyaneum, *C. B. Clarke*, F.B.I., iii. p. 7.

Doi Chieng Dao, 2180 m., *Hosseus*, 392 (Herb. Kew! et Copenhagen!).

Distr. Mishmi, Manipur.

Viburnum cylindraceum, *Ham.* *V. coriaceum*, Bl.—F.B.I., iii. p. 5.

Chiengmai, Doi Sootep, in evergreen jungle, 1500 m., *Kerr*, 1389.

Distr. Himalayas, Burma, Assam, Yunnan, Java.

Viburnum inopinatum, *Craib*, sp. n., a *V. sambucino*, Reinw., foliis subtus molliter pubescentibus, calycis dentibus minoribus, corolla parum majore, filamentis antherisque longioribus recedit.

Frutex vel arbuscula (ex *Kerr*); ramuli primo densius breviter albo-pubescentes, plus minusve glabrescentes, cortice rubro-brunneo parce lenticellato obtecti. *Folia* late oblanceolata, oblongo-oblanceolata vel ovato-elliptica, apice acuminata, acutiuscula, basi cuneata, 9–19 cm. longa, 3·6–7·3 cm. lata, chartacea, supra glabra, subtus molliter pubescentia, nervis lateralibus utrinque 5–7 supra cum nervis transversis leviter impressis subtus prominentibus intra marginem arcuatis; petioli 0·7–4 cm. longi, supra sulcati. *Corymbae* terminales, umbelliformes, 9·5–13 cm. diametro; pedunculi 7, 3–4·5 cm. longi. *Calycis* dentes minuti. *Corollae* albae tubus 1·5 mm. longus, lobi 1·25 mm. longi, vix 1·5 mm. lati. *Filamenta* 5–6·5 mm. longa, glabra, antheris 1 mm. altis.

Chiengmai, in evergreen jungle on Doi Sootep, 600–900 m., *Kerr*, 932, 932a.

Lao name, Dauk oon.

Lonicera Hildebrandiana, *Coll. et Hemsl.*, Journ. Linn. Soc., xxviii. p. 64.

Chiengmai, among rocks on Doi Sootep, 1380 m., *Kerr*, 598.

Distr. Upper Burma.

* Continued from *K.B.* 1911. p. 60.

(21716—6a.) Wt. 118—9. 1125. 11/11. D & S.

Rubiaceae.

Anthocephalus indicus, *A. Rich.*—Haviland, Journ. Linn. Soc., xxxiii. p. 23. *A. Cadamba*, Miq.—F.B.I., iii. p. 23. *Sarcocephalus Cadamba*, Kurz, For. Fl. Burma, ii. p. 63.

Chiengmai, edge of clearing on Doi Sootep, 660 m., *Kerr*, 1215.

Distr. India, Assam, Tonkin, Malaya.

Lao name, Mai Toom.

Adina polycephala, *Benth.*—F.B.I., iii. p. 25; Haviland, Journ. Linn. Soc., xxxiii. p. 46. *Nauclea polycephala*, Wall.—For. Fl. Burma, ii. p. 65.

Chiengmai, by stream on Doi Sootep, 660–750 m., *Kerr*, 1065, 1764.

Distr. India, Burma, Cambodia, Cochinchina, Malaya.

Mitragyna diversifolia, *Haviland*, Journ. Linn. Soc., xxxiii. p. 71. *Stephegyne diversifolia*, Hook. f., F.B.I., iii. p. 26; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 64. *Nauclea parvifolia*, Roxb., var. *diversifolia*, Kurz, For. Fl. Burma, ii. p. 67.

Phre, 156-240 m., *Luang Vanpruk*, 129; Meh Ping, Kampeng, *Kerr*, 2033.

Distr. Chittagong, Burma, Philippines.

Mitragyna hirsuta, *Haviland*, Journ. Linn. Soc., xxxiii. p. 72.

Chiengmai, Doi Sootep, deciduous jungle, 300–450 m., *Kerr*, 661.

Distr. Cochinchina.

Uncaria laevigata, *Hook. f.*, F.B.I., iii. p. 30; Haviland, Journ. Linn. Soc., xxxiii. p. 90.

Chiengmai, Doi Sootep, 900 m., *Hosseus*, 317.

Distr. Khasia, Manipur, Tenasserim.

Uncaria macrophylla, *Wall.*—F.B.I., iii. p. 32; Haviland, Journ. Linn. Soc., xxxiii. p. 84.

Chiengmai, Doi Sootep, 720 m., *Kerr*, 692.

Distr. Bhutan, Khasia, Cachar, Manipur, Yunnan.

Nauclea sp. near *N. purpurascens*, Korth. *N. purpurea*, K. Sch., Bot. Tidsskr., xxiv. p. 331; Williams, Bull. Herb. Boiss., v. (1905) p. 951, *vix* Roxb.

Klong Son, *Schmidt*, 680 (in bud only!).

Hymenopogon parasiticus, *Wall.*—F.B.I., iii. p. 34; For. Fl. Burma, ii. p. 73.

Chiengmai, Doi Sootep, evergreen jungle, 1440 m., *Kerr*, 1392.

Distr. Himalayas, Burma, Assam, China.

Wendlandia glabrata, *DC.*—F.B.I., iii. p. 39; For. Fl. Burma, ii. p. 74; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 65.

Chiengmai, Doi Sootep, in deciduous jungle, 300–900 m., *Kerr*, 963; ? Phre, 156–240 m., *Luang Vanpruk*, 112 (in young bud only).

Distr. Mysore, Burma, China, Tonkin.

Wendlandia glabrata, *DC.*, var. **floribunda**, *Craib*, var. nov., a typa floribus congestis, alabastris apice pilosis, corollae tubo graciliore recedit.

Chiengmai, Doi Sootep, in open jungle, 1440 m., *Kerr*, 1674.

The species comprising the genus *Wendlandia* are very closely allied, and probably the plant here described as a variety may eventually have to be raised to specific rank.

Wendlandia paniculata, *DC.*—F.B.I., iii. p. 39.

Chiengmai, Doi Sootep, in mixed jungle, 660 m., *Kerr*, 1710, 1715.

Distr. Yunnan, Indo-China, Malaya.

Wendlandia tinctoria, *DC.*—F.B.I., iii. p. 38 ; For. Fl. Burma, ii. p. 74.

Doi Chieng Dao, 400 m., *Hosseus*, 472.

Distr. N. India, Burma, Yunnan.

Dentella repens, *Forst.*—F.B.I., iii. p. 42 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 65 ; Williams, Bull. Herb. Boiss., v. (1905) p. 950.

Chiengmai, 300 m., *Kerr*, 1476 ; Koh Chang, Klong Sarlakpet, *Schmidt*, 731.

Distr. Trop. Asia, Australia, Polynesia, America Cent.

Argostemma stellatum, *Craib*, sp. n., ab *A. verticillato*, Wall., antheris longioribus haud liberis facile distinguenda.

Herba erecta, 5–12 cm. alta, foliis supra interdum pauperrime brevissime setulosis exceptis omnino glabra. *Folia* 4, verticillata, anguste obovata, obovato-elliptica vel fere elliptica, apice plerumque breviter acuminata, obtusiuscula, basi cuneata, 1·2–3·5 cm. longa, 0·8–2 cm. lata, sessilia vel subsessilia, membranacea, supra fusco- subtus pallide viridia, nervis lateralibus utrinque circiter 5 pagina utraque subconspicuis. *Inflorescentia* terminalis, e pedunculis 1–5 fasciculatis unifloris vel dichotome cymosis laxe paucifloris constituta, pedunculo communi ad 2·5 cm. longo, pedicellis 1·5–2·3 cm. longis. *Corolla* alba (ex *Kerr*), fere rotata, lobis 4–5 anguste linearilanceolatis circa 8 mm. longis 2 mm. latis. *Filamenta* brevissima ; antherae in columnam corolla paullo breviorem conniventes, connectivo producto.

Chiengmai, Meh Hia, damp rocks by stream, 390 m., *Kerr*, 1413.

Argostemma verticillatum, *Wall.*—F.B.I., iii. p. 43, pro parte.

Chiengmai, on damp rocks on Doi Sootep, 720 m., *Kerr*, 728.

Distr. Himalayas, Khasia, Burma, Yunnan.

Oldenlandia auricularia, *F. Muell.*—Williams, Bull. Herb. Boiss., v. (1905) p. 950. *O. costata*, K. Sch., Bot. Tidsskr., xxiv. p. 330 ; Williams, l.c. p. 950, non *Spermacoce costata*, Roxb. *Hedyotis auricularia*, Linn.—F.B.I., iii. p. 58.

Koh Chang, *Schmidt*, 412.

Distr. S.E. Asia, Australia.

Oldenlandia coronata, *Williams*, Bull. Herb. Boiss., v. (1905) p. 950. *Hedyotis connata*, Hook. f., F.B.I., iii. p. 62.

Chiengmai, in evergreen jungle on Doi Sootep, 720 m., *Kerr*, 792.

Distr. Amherst, Mergui, Gia laa mè (*Pierre*, 2034).

Oldenlandia dichotoma, *Koen.*—F.B.I., iii. p. 67.

Raheng, *Lindhard.*

Distr. India, Malay Peninsula.

Oldenlandia diffusa, *Roxb.*—F.B.I., iii. p. 65.

Chiengmai, Doi Sootep, 330 m., *Kerr*, 1357.

Distr. S.E. Asia.

Oldenlandia hirsuta, *Linn. f.* *Hedyotis stipulata*, Br.—F.B.I., iii. p. 63.

Chiengmai, Doi Sootep, 690 m., *Kerr*, 1491.

Distr. Himalayas, China, Japan, Khasia, Malay Peninsula.

Oldenlandia hispida, *Benth.* *Hedyotis hispida*, Retz.—F.B.I., iii. p. 60.

Chiengmai, in mixed jungle at foot of Doi Sootep, 300 m., *Kerr*, 1234.

Distr. Himalayas, Burma, Assam, China, Philippines, Cambodia.

Oldenlandia nudicaulis, *Roth.*—F.B.I., iii. p. 70 ; Williams, Bull. Herb. Boiss., v. (1905) p. 951.

Chiengmai, in deciduous jungle on Doi Sootep, 300 m., *Kerr*, 767.

Distr. Himalayas, Burma, Assam, Java.

Oldenlandia paniculata, *Linn.*—F.B.I., iii. p. 69.

Chiengmai, 300 m., *Kerr*, 1474—"a garden weed."

Oldenlandia (Hedyotis) tenelliflora, *Bl.*, var. **Kerrii**, *Craib*, var. nov., a typa partibus omnibus paulo majoribus, cymis capitatis subsessilibus vel pedunculis usque ad 1 cm. longis suffultis differt.

Chiengmai, Doi Sootep, deciduous jungle, 300–750 m., *Kerr*, 821.

The genus *Oldenlandia* is here used to include the genus *Hedyotis* of the Flora of British India as proposed by Schumann in Engl. Pflanzenfam., and it is possible that in a revision of the genus the plant here treated as a variety may have to be regarded as a distinct species.

Oldenlandia Wallichii, *Craib*, comb. nov. *Hedyotis Wallichii*, Kurz—F.B.I., iii. p. 53.

Chiengmai, in deciduous jungle on Doi Sootep, 360 m., *Kerr*, 1498.

Distr. Andamans, Burma, Borneo.

Oldenlandia, sp. aff. *O. prostratae* (Korth.). *O. lineata*, K. Sch., Bot. Tidsskr., xxiv. p. 330 ; Williams, Bull. Herb. Boiss., v. (1905) p. 950, *non Hedyotis lineata*, Roxb.

Koh Chang, Klong Son, *Schmidt*, 634a!

Anotis quadrilocularis, *Hook. f.*, F.B.I., iii. p. 74.

Chiengmai, Doi Sootep, damp rocks by stream, 720 m., *Kerr*, 1421.

Distr. Ceylon, S. India.

Ophiorrhiza Harrisiana, *Heyne*, var. **argentea**, *Hook. f.*, F.B.I., iii. p. 78.

Chiengmai, in evergreen jungle on Doi Sootep, 660–900 m., *Kerr*, 1174, 1838.

Distr. Sylhet, Khasia.

Ophiorrhiza rosea, *Hook. f.*, F.B.I., iii. p. 78.

Chiengmai, Doi Sootep, 900–1350 m., *Kerr*, 709, 1254.

Distr. Khasia, Mishmi, Sikkim.

Mussaenda Hossei, *Craib*, sp. n., a *M. breviloba*, S. Moore, foliis tenuioribus indumento subtus parciore, sepalis expansis majoribus, corollae tubo usque ad 2·3 cm. longo eiusque indumento extus parciore differt.

Suffrutex circiter 1 m. altus (ex *Kerr*) ; ramuli graciles, primo densius breviter albo-pubescentes, mox fere glabri, cortice rubro-brunneo parce lenticellato obtecti. *Folia* oblanceolata vel oblongo-oblanceolata, apice acuminata, acuta, basi obtusa vel rotundata, 3–9 cm. longa, 1·5–3·4 cm. lata, chartacea, supra parce pilulosa, subtus imperfecte sericeo-pubescentia, nervis lateralibus utrinque circiter 8 supra conspicuis subtus prominulis nervis transversis

obscuris, petiolis usque ad 0·5 cm. longis suffulta ; stipulae anguste lanceolatae, apice plus minusve bifidae, acutae, 5–7 mm. longae, 2–3 mm. latae. *Receptaculum* subellipsoideum, 2·5 mm. altum, 2 mm. diametro. *Sepala* normalia lanceolata, acuta, 2 mm. longa. 0·5 mm. lata, aucta alba (ex *Kerr*), ad 5·5 cm. longa, 4 cm. lata. *Corollae* aurantiacae (ex *Kerr*) tubus 2·2–2·3 cm. longus, superne dilatatus, extra, superne praecipue, strigillosus, intra apicem versus villosus, lobi suborbiculares, acuminati, circa 2 mm. diametro. *Antherae* 4 mm. longae, filamentis brevibus. *Fructus* oblongo-ellipsoideus, 1·8 cm. altus, 0·8 cm. diametro, lenticellatus, sepala perpauca persistentia gerens.

Chiengmai, Doi Sootep, *Hosseus*, 242 (Herb. Kew! Hoss.! et Copenhagen !), in deciduous jungle, 300–900 m., *Kerr*, 936, 936a.

Hosseus, 447 also from Doi Sootep is probably only a form of *M. Hossei* differing chiefly in the sparser indumentum of the inflorescence.

Mussaenda Kerrii, *Craib*, sp. n., ex affinitate *M. polyneurae*, King, a qua foliis formae diversae majoribus, cortice brunneo vel rubro-brunneo, stipulis parvis recedit.

Frutex scandens (ex *Kerr*) ; ramuli teretes, ad 4 mm. diametro, primo puberuli, mox glabri, cortice pallide brunneo vel rubro-brunneo striato parce lenticellato obtecti. *Folia* oblanceolata, oblongo-oblanceolata vel rarissime obovato-oblanceolata, apice acuminata, basi cuneata, 8–22 cm. longa, 2·5–6 cm. lata, chartacea, utrinque glabra nisi nervis subtus brevissime appresse pilulosa, subtus pallidiora, nervis lateralibus utrinque 7–9 arcuatis supra conspicuis subtus prominulis, nervulis utrinque, subtus magis, conspicuis ; petioli 1 cm. longi, supra canaliculati, subglabri ; stipulae deciduae, acuminatae, 2 mm. longae. *Cymulae* in corymbos foliis breviores dispositae, pedunculo communi usque ad 5 cm. longo, pedunculis partialibus ad 1·5 cm. longis, pedicellis brevibus ; bracteae parvae. *Receptaculum* glabrescens, circiter 3 mm. altum. *Calycis* lobi ut videtur post anthesin decidui, normales linearilanceolati, acuti, 1–1·5 mm. longi, parce setulosi et breviter setuloso-ciliati, aucti albi (ex *Kerr*), majusculi, longe petiolati. *Corollae* tubus 2·5 cm. longus, extus glabrescens, intus pilosus, lobi deltoidei, acuminati, 3 mm. longi, 1·5–2 mm. lati. *Antherae* anguste lineares, 4 mm. longae.

Chiengmai, marshy ground in evergreen jungle on Doi Sootep, 660 m., *Kerr*, 1112 ; Phre, 180 m., *Luang Vanpruk*, 196.

Vern. Dok Kem bai (ex *Luang Vanpruk*).

Mussaenda sootepensis, *Craib*, sp. n., ab affini *M. incana*, Wall., ramulorum indumento breviore parciore, foliis valde minoribus, corollae tubo breviore indumento parciore distincta.

Suffrutex parvus ; ramuli primo breviter pilosi, mox fere glabri, cortice rubro-brunneo striato obtecti. *Folia* elliptica, ovato-lanceolata vel ovata, apice distincte vel vix acuminata, obtusiuscula, basi attenuata vel rotundata, 3–6 cm. longa, 1·3–3·3 cm. lata, chartacea, supra pilis basi incrassatis instructa, subtus hirsuta, nervis lateralibus utrinque 6 pagina utraque conspicuis ; petioli ad 4 mm. longi ; stipulae lanceolatae, 5 mm. longae, apice plus minusve bifidae. *Cymulae* in corymbos terminales dispositae ; bracteae parvae, lineari-lanceolatae ; pedicelli breves. *Receptaculum* 3 mm. altum,

dense hirsutum. *Calycis* lobi 5 mm. longi ; sepala in lamina expansa rara, parva. *Corollae* luteae tubus 2·2 cm. longus, lobi acuminati, 6 mm. longi, 3 mm. lati. *Antherae* anguste lineares, 4 mm. longae, filamentis circiter 1 mm. longis.

Chiengmai, Doi Sootep, deciduous jungle, 600 m., *Kerr*, 1183.

Dr. Kerr describes this plant as a low straggling shrub but I cannot distinguish specifically from it his 744 also collected in deciduous jungle on Doi Sootep 300–720 m. which he describes as having prostrate creeping shoots. The latter would appear to have grown under more adverse conditions and has slightly narrower leaves which dry brown.

Mussaenda uniflora, *Wall.*—F.B.I., iii. p. 86.

Chiengmai, Doi Sootep, 300 m., *Kerr*, 680 ; Muang Fang, 500 m., *Hosseus*, 603.

Distr. Lower Burma.

Mussaenda sp. allied to *M. Kerrii*, *M. polyneura*, and probably to *M. Wallichii* but too incomplete to admit of certainty.

Chiengmai, Doi Sootep, *Hosseus*, 241.

Mycetia cauliflora, *Reinw.*, forma ?

Chiengmai, Doi Sootep, evergreen jungle by stream, 900 m., *Kerr*, 1833.

Distr. Java, Yunnan.

Mycetia longifolia, *K. Sch.* *Adenosacme longifolia*, Wall.—F.B.I., iii. p. 95 ; For. Fl. Burma, ii. p. 54.

Chiengmai, in evergreen jungle on Doi Sootep, 660 m., *Kerr*, 1148.

Distr. Himalayas, Burma, Assam, Yunnan, Tonkin, Malaya.

Randia dumetorum, *Lamk.*—F.B.I., iii. p. 110.

Chiengmai, Doi Sootep, 300–450 m., *Kerr*, 568.

This plant is identical with the plant referred to *R. tomentosa* by Collett and Hemsley in Journ. Linn. Soc., xxviii. p. 66. In the writer's opinion it is referable rather to *R. dumetorum* in the wide sense and may possibly be *R. nutans*, DC.—a species maintained in For. Fl. Burma, ii. p. 45.

Randia Griffithii, *Hook. f.*, F.B.I., iii. p. 112 ?

Chiengmai, Doi Sootep, evergreen jungle, 1050 m., *Kerr*, 1776.

Distr. Khasia.

This species is represented at Kew by fruiting specimens only, and those collected by Dr. Kerr are all in flower.

Randia longiflora, *Lamk.*—F.B.I., iii. p. 111, pro parte ; Williams, Bull. Herb. Boiss., v. (1905) p. 952, pro parte.

Klong Son, *Schmidt*, 652.

Distr. China, Indo-China, Malaya.

Randia longiflora, *Lamk.*, var. ? *R. fasciculata*, K. Sch., Bot. Tidsskr., xxiv. p. 332 ; Williams, Bull. Herb. Boiss., v. (1905) p. 952, *non* DC.

Klung, *Schmidt*, 372.

Randia siamensis, *Craib*, nom. nov. *R. longiflora*, Lamk.—F.B.I., iii. p. 111, pro parte ; Williams, Bull. Herb. Boiss., v. (1905) p. 952, pro parte. *Webera siamensis*, Kurz, For. Fl. Burma, ii. p. 48. *Griffithia siamensis*, Miq.

Chiengmai, in deciduous (eng) jungle, 300 m., *Kerr*, 583 ; Cape Liant, *Murton*, 52 ; Bangkok, *Schomburgk*, 113.

Distr. Burma.

The writer cannot acquiesce in the treatment of *R. longiflora* in the Flora of British India, l.c. and proposes the name *R. siamensis* for the Indo-China plant with the short corolla tube which was originally described by Miquel as *Griffithia siamensis*.

Randia similis, *Craib*, sp. n., a *R. hygrophila*, Hook. f., cui affinis, floribus paulo minoribus solitariis ad apices ramulorum brevium lateralium gestis, calycis lobis haud ciliatis recedit.

Ramuli validi, cinerei, glabri, haud nitidi. *Folia* (vix matura ?) sessilia vel subsessilia, obovato-oblanceolata vel obovato-elliptica, apice rotundata, breviter apiculata, basi cuneata, 1·5–3·5 cm. longa, 0·5–1·5 cm. lata, rigide chartacea, utrinque fere glabra nisi subtus inter costam et nervos primarios floccosa, nervis lateralibus utrinque usque ad 12 pagina utraque conspicuis. *Flores* solitarii, ad apices ramulorum lateralium 2–5 cm. longorum gesti. *Receptaculum* turbinatum, circa 4 mm. altum, fere glabrum. *Calycis* lobi 5–6, subaequales, lineares, obtusiusculi, circiter 5 mm. longi, 1 mm. lati, glabri. *Corollae* extra pilosulae intra glabrae, tubus 1·6–1·8 cm. longus, superne leviter dilatatus, apice 6–7 mm. diametro, lobi 5–6, subaequales, obovati vel elliptico-obovati, apice rotundati, 1–1·4 cm. longi, 8–9 mm. lati. *Antherae* anguste lineares, 9 mm. longae. *Ovarium* 2-loculare ; stylus validus, glaber, stigmate fusiformi apice brevissime 2-dentato.

Lower Siam, Paknampo, common in dry deciduous jungle, *Witt*, 22.

Randia sootepensis, *Craib*, sp. n., a *R. macrophylla*, Hook. f., foliis minoribus, calycis lobis vix 4 mm. longis, corolla circiter 6·5 cm. tantum longa recedit.

Suffrutex ad 3·5 m. altus (ex *Kerr*), receptaculo calyceque exceptis fere omnino glaber. *Folia* lanceolata vel oblongo-lanceolata, apice acuminata, acutiuscula, basi cuneata, 5–15 cm. longa, 1·2–5 cm. lata, subcoriacea, nervis lateralibus utrinque 7–8 intra marginem arcuatis pagina superiore subconspicuis inferiore prominentibus, petiolis brevibus suffulta ; stipulae deciduae, deltoideae, 4 mm. longae, 2 mm. latae. *Flores* sessiles, gemini, pedunculo communi brevi suffulti. *Receptaculum* tubulosum, 6 mm. altum, 3 mm. diametro. *Calycis* tubus 3 mm. longus, lobi lanceolati, acuti, tubo aequialti ; calyx ut in receptaculo appresse albido-hirsutus, lobis intra appresse pubescentibus. *Corollae* albae et fauce purpureo-pictae (ex *Kerr*) tubus 5·5 cm. longus, parte basi tubulosa 2 mm. diametro superne ampliatus ad 1·2 cm. diametro, lobi 2 cm. longi, 1·2 cm. lati, apice obtusi. *Antherae* 1·4 cm. longae. *Stylus* 5 cm. longus, glaber.

Chiengmai, Doi Sootep, 660–800 m., *Kerr*, 1651, *Hosseus*, 451a.

Randia tomentosa, *Hook. f.*, F.B.I., iii. p. 110; *non* Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 66. *Gardenia dasycarpa*, Kurz, For. Fl. Burma, ii. p. 42 (ex F.B.I., l.c.).

Chiengmai, in deciduous jungle on lower slopes of Doi Sootep, 300–450 m., *Kerr*, 576 ; *Murton*, 140.

Distr. Burma, Cambodia, Java.

Randia uliginosa, *DC.*— F.B.I., iii. p. 110; For. Fl. Burma, ii. p. 44.

Chiengmai, in deciduous (eng) jungle, 300 m., *Kerr*, 579.

Distr. India, Burma.

Randia Wallichii, *Hook. f.*, F.B.I., iii. p. 113.

Chiengmai, Doi Sootep, 600 m., *Kerr*, 629, 1196, 1196a.

Distr. Bhutan, Yunnan, Burma, Khasia, Chittagong, Java.

Randia Wittii, *Craib*, sp. n., ab affini *R. exaltata*, Griff., foliis molliter pubescentibus, corolla multo majore facile distinguenda.

Arbor 4·5–7·5 m. alta (ex *Witt*); ramuli primo dense albo-pubescentes, mox glabri, cortice fusco-brunneo obtecti. *Folia* oblanceolata vel anguste elliptica, apice breviter acuminata, obtusiuscula, basi cuneata, ad 12·5 cm. longa, 6 cm. lata, subcoriacea, utrinque molliter pubescentia, nervis lateralibus utrinque 8–9 supra conspicuis subtus prominulis; petioli ad 8 mm. longi; stipulae deciduae, 3 mm. longae, 3·5 mm. latae. *Cymae* pseudo-axillares, pluriflorae, densius breviter hirsutae, pedunculo communi circa 0·5 cm. longo, pedicellis fere 1·5 cm. longis, bracteis deciduis. *Receptaculum* campanulatum, fere 4 mm. altum. *Calyx* ad 3 mm. altum, dentatum. *Corollae* albae tubi purpureo-picti (ex *Witt*) pars basi aequalis 7 mm. longa, 4 mm. diametro, pars superior campanulata, ad 3·5 cm. longa, apice 4 cm. diametro, lobi oblongi, obtusi, 2·5 cm. longi, 1·7 cm. lati. *Antherae* lineares, 1·4 cm. longae.

Lower Siam, Korat, in dry deciduous jungle, 60 m., *Witt.*

Gardenia erythroclada, *Kurz*—F.B.I., iii. p. 119; For. Fl. Burma, ii. p. 40; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 66.

Chiengmai, in deciduous jungle on Doi Sootep, 300 m., *Kerr*, 647.

Distr. Burma.

Gardenia obtusifolia, *Roxb.*—F.B.I., iii. p. 116; For. Fl. Burma, ii. p. 42. ? *G. sp.*, Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 66.

Chiengmai, deciduous jungle, foot of Doi Sootep, 300–720 m., *Kerr*, 543.

Distr. Burma.

Gardenia sessiliflora, *Wall.*—F.B.I., iii. p. 118; For. Fl. Burma, ii. p. 40.

Chiengmai, mixed jungle, foot of Doi Sootep, 300 m., *Kerr*, 587.

Distr. Pegu.

Gardenia sootepensis, *Hutchinson*, sp. n., affinis *G. coronariae*, Ham., sed foliis subtus molliter tomentellis differt.

Arbor; ramuli teretes, apice foliacei, internodiis vix 1 cm. longis, cortice parce tomentello demum glabro. *Folia* obovata vel obovato-elliptica, breviter acuminata, acumine obtuso vel subobtuso, basi obtusa vel subacuta, 9–11 cm. longa, 3–5 cm. lata, rigide chartacea, supra viscida, puberula, subtus plerumque molliter tomentella, nervis lateralibus utrinque 15–20 leviter obliquis subtus valde prominentibus, venis subtus paullo conspicuis; petiolus ad 1 cm. longus, viscidus, puberulus; stipulae in tubum connatae, 1 cm. longae, truncatae, submembranaceae, ciliatae, demum leviter induratae et deciduae. *Flores* ad ramulorum apices solitarii; pedicelli 1–1·5 cm. longi, robusti, viscidi, puberuli. *Receptaculum* subcylindraceum, 5 mm. longum, puberulum. *Calyx* tubulosus, superne unilateraliter fissus, 1·3–1·5 cm. longus, extus viscidus, parce

pubescens, intus appresse pilosus. *Corolla* alba, demum flava (ex *Kerr*); tubus cylindraceus, 5–5·5 cm. longus, medio 3–4 mm. diametro, extus minute puberulus, intus glaber; lobi 5, late obovati, circiter 4 cm. longi et 3 cm. lati, venosi, glabri. *Antherae* supra medium affixae, 1·5 cm. longae, circiter 2 mm. exsertae vel inclusae. *Stylus* 6 cm. longus, sulcatus, inferne parce subappresse pubescens, stigmate clavato. *Ovarii* placentae 2. *Fructus* oblongo-ellipsoideus, 4 cm. longus, vix 3 cm. diametro, parce lenticellatus; pericarpium durum, lignosum, 2 mm. crassum. *Semina* ∞, foveolata.

Chiengmai, Doi Sootep, mixed jungle, 750 m., *Kerr*, 1794.

Griffith 2818 from Burma is probably this species, though the intermodes on the main branchlets are much longer than in the Siamese specimens.

Hyptianthera bracteata, *Craib*, sp. n., *H. strictae*, W. et A., valde affinis, a qua stipulis multo longioribus, calycis lobis majoribus, bracteolis conspicuis facile distinguenda.

Frutex ad 2·4 m. altus (*ex Kerr*), inflorescentia excepta glaber; ramuli subquadrangulares, cortice rubro-brunneo. *Folia* lanceolata vel ovato-lanceolata, apice acuminata, mucronata, basi cuneata, 13–16·5 cm. longa, 3·5–4 cm. lata, subcoriacea, margine integro, nervis lateralibus utrinque circiter 9 intra marginem arcuatis supra conspicuis subtus cum nervis transversis prominentibus; petioli 1 cm. vix attingentes; stipulae rigidae, dorso superne carinatae, usque ad 1 cm. longae. *Inflorescentia* generis. *Bracteae bracteolaeque* stipulis similes, calycis lobos vix aequantes, ciliatae. *Receptaculum* turbinatum, 1·5 mm. altum. *Calycis* lobi 3·5 mm. longi, acuti, ciliati. *Corollae* albae tubus vix 2 mm. longus, lobi 2 mm. longi, ciliolati. *Stamina pistillumque* generis.

Chiengmai, in evergreen jungle on Doi Sootep, 660 m., *Kerr*, 1145; on old clearing on Doi Sootep, 750 m., *Kerr*, 1792.

This plant in its calyx and bracts somewhat resembles the narrow-leaved Khasia plant included in the Flora of British India under *H. stricta* but is readily distinguished from it by its leaves which are similar to typical *H. stricta*.

Diplospora siamica, *Craib*, sp. n., a *D. pubescente*, Hook, f., cui affinis, foliis tenuioribus longius petiolatis, calyce subtruncato, corolla majore recedit.

Ramuli primo pubescentes, mox glabri, ad 5 mm. diametro. *Folia* ovato-lanceolata, oblongo-oblanceolata vel obovato-elliptica, apice acuminata, obtusiuscula, basi nonnunquam inaequalia, cuneata, 11–19 cm. longa, 5·2–7·2 cm. lata, chartacea, supra costa pilulosa excepta glabra, subtus costa nervisque pubescentia, integra, nervis lateralibus utrinque 7–10 intra marginem arcuatis supra sicco cum costa plerumque impressis subtus prominentibus; petioli circiter 1 cm. longi, ut in ramulis pubescentes; stipulae connatae, subulato-acuminatae, ad 8 mm. longae. *Inflorescentia* ex axillis foliorum delapsorum, petiolos subaequans; pedicelli breves; bracteae bracteolaeque parvae, ciliatae, illae connatae, hae liberae. *Receptaculum* campanulatum, 0·75 mm. altum, 1 mm. diametro, glabrum. *Calyx* subpatelliformis, 1 mm. altus, fere 2 mm. diametro, subtruncatus, pauperrime ciliatus. *Corollae* tubus 2·5 mm. longus, lobi 4, 3 mm. longi, 2·5 mm. lati. *Antherae* 2·5 mm. longae, filamentis brevibus *Stylus* 4 mm. longus, glaber, ad medium bifidus.

Chiengmai, Doi Sootep, evergreen jungle, 1650 m., *Kerr*, 1749.

Knoxia brachycarpa, *R. Br.*—F.B.I., iii. p. 130.
Chiengmai, in deciduous jungle on Doi Sootep, 450 m., *Kerr*, 721.
Distr. Tropical Himalaya, Behar, Pegu, Cambodia.

Knoxia corymbosa, *Willd.*—F.B.I., iii. p. 128 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 66.
Chiengmai, in eng jungle on Doi Sootep, 300–450 m., *Kerr*, 799 ; in open grassy spots on Doi Sootep, 1350 m., *Kerr*, 781.
Distr. India, Burma, China, Malaya, N. Australia.

Plectronia didyma, *Kurz*, For. Fl. Burma, ii. p. 35 ; Williams, Bull. Herb. Boiss., v. (1905) p. 953. *Canthium didymum*, Gaertn. f. —F.B.I., iii. p. 132.
Chiengmai, deciduous jungle on Doi Sootep, 300 m., *Kerr*, 1079.
Distr. India, Assam, China, Cochinchina, Malaya.

Plectronia parvifolia, *Kurz*, For. Fl. Burma, ii. p. 36. *Canthium parvifolium*, Roxb.—F.B.I., iii. p. 135.
Chiengmai, Doi Sootep, 450–1050 m., *Kerr*, 664.
Distr. India, Burma, Assam, S. China, Malaya.

Vangueria pubescens, *Kurz*, For. Fl. Burma, ii. p. 34 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 66. *V. spinosa*, Roxb., var. *mollis*, Hook. f., F.B.I., iii. p. 136.
Chiengmai, in eng jungle, 300 m., *Kerr*, 582.
Distr. Bengal, Burma, Cambodia.

Ixora amoena, *Wall.*—F.B.I., iii. p. 146 ; *non* Williams, Bull. Herb. Boiss., v. (1905) p. 954. *I. stricta*, Williams, l.c. p. 955, at least for *Schmidt*, 621a, *non* Roxb.
Lem Dan, *Schmidt*, 621a.
Distr. Malaya.

Ixora arguta, *Br.* *I. nigricans*, Br.—F.B.I., iii. p. 149, p.p. *Stylocoryne Wallichii*, K. Sch., Bot. Tidsskr., xxiv. p. 336 ; Williams, Bull. Herb. Boiss., v. (1905) p. 955, *non Webera Wallichii*, Hook. f.
Lem Dan, *Schmidt*, 800.
Distr. Malay Peninsula.

Ixora grandifolia, *Zoll. et Mor.*, var. glabra, *Craib*, var. nov., a typa paniculis glabris facile distinguenda.
Chiengmai, in eng. jungle on Doi Sootep, 330–600 m. *Kerr*, 530, 1706; Chiengmai, *Hosseus*, 178 (Herb. Kew! et Copenhagen!) ; Doi Chieng Dao, 400 m., *Hosseus*, 469.
Lao name, Dawk Kem (ex *Kerr*).
Murton, 75 enumerated by Williams under *I. stricta*, is probably also a form or variety of *I. grandifolia*.

Ixora pavettaefolia, *Craib*, comb. nov. *Mussaenda pavettaefolia*, Kurz, For. Fl. Burma, ii. p. 57 ; F.B.I., iii. p. 91. *I. debilis*, Drake, Journ. de Bot., ix. (1895) p. 234.
Chiengmai, Doi Sootep, 750 m., *Kerr*, 642.
Distr. Burma, Tonkyeghat, *Kurz*, 1409. China : Yunnan, *Henry*, 13757 ; Hainan, *Katsumatra* in Herb. Hongkong, 6714, 6717, 6718. Tonkin, *Balansa*, 2662, 2663.
The fruit of this plant has not, so far as the writer is aware, yet been collected ; until fruit is collected, it would appear advisable to follow Drake and leave it in *Ixora*, though the habit is scarcely that of an *Ixora*.

Ixora spectabilis, *Wall.*—F.B.I., iii. p. 141. *I. grandifoliae*, var.? —Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 67.

Chiengmai, 300 m., *Hosseus*, 451 (Herb. Kew! et Copenhagen!); Doi Sootep, 660 m., *Kerr*, 1800.

Distr. Burma.

Ixora stricta, *Roxb.*—F.B.I., iii. p. 145; For. Fl. Burma, ii. p. 26; Williams, Bull. Herb. Boiss., v. (1905) p. 955, pro parte. *I. amoena*, Williams, l.c. p. 954, *non* Wall.

Lem Dan, *Schmidt*, 25.

Distr. India, China, Indo-China.

Pavetta indica, *Linn.*—F.B.I., iii. p. 150. *Ixora Pavetta*, Roxb.—For. Fl. Burma, ii. p. 18.

Chiengmai, in deciduous jungle on Doi Sootep, 300–1050 m., *Kerr*, 1149, 1775; Bangkok, *Schomburgk*, 214.

Distr. India, S. China, throughout Indo-China, Malaya.

Pavetta indica, *Linn.*, var. tomentosa, *Hook. f.*, F.B.I., iii. p. 150. *Ixora tomentosa*, Roxb.—For. Fl. Burma, ii. p. 19.

Chiengmai, Doi Sootep, 1050 m., *Kerr*, 725; Phre, 150–240 m., *Luang Vanpruk*, 185.

Distr. India, Burma, Assam, Tonkin, Malaya.

Lao name, Khem Peh (ex *Luang Vanpruk*).

Morinda tinctoria, *Roxb.*—F.B.I., iii. p. 156; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 67.

Chiengmai, in evergreen jungle on Doi Sootep, 600–900 m., *Kerr*, 1092; Doi Sootep, 700–1000 m., *Hosseus*, 450 (Herb. Kew! et Copenhagen!); Phre, 120–180 m., *Luang Vanpruk*, 151.

Distr. Throughout India, Indo-China, Malaya.

Probably the form described as *M. leiantha*, Kurz., For. Fl. Burma, ii. p. 59.

Morinda tinctoria, *Roxb.*, var. tomentosa, *Hook. f.*, F.B.I., iii. p. 156. *M. tomentosa*, Heyne—For. Fl. Burma, ii. p. 60.

Chiengmai, in deciduous jungle on Doi Sootep, 420–440 m., *Kerr*, 1182, 1819; Phre, 156–210 m., *Luang Vanpruk*, 172.

Distr. India, Burma.

Prismatomeris tetrandra, *K. Schum.* *P. albidiflora*, Thw.—F.B.I., iii. p. 159. *Coffea tetrandra*, Roxb.—For. Fl. Burma, ii. p. 28.

Chiengmai, Doi Sootep, 480 m., *Kerr*, 683, 683a.

Distr. India, Burma, Assam, Cambodia, Cochinchina, Malaya.

Psychotria sp.

Chiengmai, in evergreen jungle on Doi Sootep, 900–1050 m., *Kerr*, 1123, 1188.

In the absence of fruit I hesitate to describe this as new.

Chasalia curviflora, *Thw.*—F.B.I., iii. p. 176; For. Fl. Burma, ii. p. 14; Williams, Bull. Herb. Boiss., v. (1905) p. 955.

Chiengmai, Doi Sootep, in evergreen jungle, 900 m., *Kerr*, 1154.

Distr. India, throughout Indo-China, Malaya.

Cephaelis siamica, *Craib*, sp. n., a speciebus indicis adhuc descriptis foliis multo minoribus facile distinguenda.

Radix crassa, lignosa; caules lignosi, teretes, ad 52 cm. alti, primo ferrugineo-pilosi, mox glabri, cortice pallide brunneo striato obtecti. *Folia* lanceolata, apice acutiuscula, basi cuneata, 7–13 cm. longa,

2–5 cm. lata, chartacea, margine integra, supra glabra, subtus costa nervisque praecipue pilosa, nervis lateralibus utrinque 7–8 intra marginem arcuatis supra conspicuis subtus prominentibus, nervis transversis vix conspicuis; petioli 0·5–1 cm. longi, pilosi; stipulae deciduae. *Inflorescentia* sessilis, terminalis, densa, capitata. *Receptaculum* 1·5 mm. longum, hirsutum. *Calycis* lobi lanceolati, 3 mm. longi, 1 mm. lati, extus hirsuti. *Corolla* viridis; tubus fere 4 mm. longus, extus fere glaber, intus fauce dense albo-villosus; lobi deltoidei, 1·5 mm. longi, 1 mm. lati, apice duriusculi, extus apicem versus pilosi. *Stamina* fauce inserta, antheris paullo exsertis. *Ovarium* 2-loculare, ovulis solitariis erectis, disco majuscolo coronatum; stylus 2 mm. longus, crassiusculus, styli ramis 0·5 mm. longis suberectis.

Chiengmai, Doi Sootep, in evergreen jungle, 660 m., *Kerr*, 1173.

As *Psychotria* stands at present this plant might about equally well be considered as belonging to that genus.

Lasianthus Hookeri, *C. B. Clarke ex Hook f.*, F.B.I., iii. p. 184.

Chiengmai, Doi Sootep, in evergreen jungle, 900 m., *Kerr*, 1157.

Distr. Khasia.

Lasianthus Kerrii, *Craib*, sp. n., a *L. Wightiano*, Hook. f., ramulis appresse fulvo-hirsutis, foliis supra glabris, nervis lateralibus utrinque 5–7 tantum recedit.

Suffrutex sarmentosus, usque ad 1·2 m. altus (fide *Kerr*); ramuli appresse fulvo- vel juventute brunneo-hirsuti. *Folia* oblanceolata, elliptico-oblanceolata vel oblonga, apice breviter acuminata, acutiuscula, basi cuneata, obtusa vel rotundata, 5–10 cm. longa, 1·7–4 cm. lata, chartacea vel rigide chartacea, supra glabra, subtus costa nervisque hirsuta, cetera pubescentia, nervis lateralibus utrinque 5–7 supra sicco subconspicuis subtus cum nervis transversis valde prominentibus; petioli 4–9 mm. longi; stipulae deciduae, linearilanceolatae, ad 6 mm. longae, 1·5 mm. latae. *Cymae* axillares, sessiles; bracteae parvae, subulatae. *Receptaculum* 2 mm. altum, 1·5 mm. diametro, strigillosum. *Sepala* lineari-lanceolata, acuta, 2 mm. longa, 0·75 mm. lata, extra strigillosa. *Corollae* albae tubus 7 mm. longus, extra parce hirsutus, lobi 2 mm. longi, obtusi. *Antherae* lineares, 1·5 mm. longae, filamentis brevissimis. *Ovarium* 4-loculare.

Chiengmai, Doi Sootep, in evergreen jungle, 1260 m., *Kerr*, 1501.

Lasianthus Kurzii, *Hook. f.*, F.B.I., iii. p. 183. *L. stercorarius*, Kurz, For. Fl. Burma, ii. p. 31, *non* Bl. (ex F.B.I., l.c.).

Chiengmai, Doi Sootep, in evergreen jungle, 900 m., *Kerr*, 1122.

Distr. Burma.

Lasianthus lucidus, *Bl.*—F.B.I., iii, p. 184; Williams, Bull. Herb. Boiss., v. (1905) p. 955.

Doi Intanon, 2350 m., *Hosseus*, 353 (Herb. Kew! et Copenhagen!).

Distr. Khasia, Java, Celebes.

Paederia Kerrii, *Craib*, sp. n., a *P. lanuginosa*, Wall., foliis minoribus indumento subtus vix tam denso, receptaculo hirsuto haud tomentoso, sepalis majoribus, corolla sicco nigra recedit.

Suffrutex scandens; ramuli primo parcius hirsuti, plus minusve glabrescentes, parce lenticellati. *Folia* ovato-oblonga vel ovato-elliptica, apice acuminata, acuta, basi alte cordata, 3–12·5 cm.

longa, 1–9 cm. lata, chartacea, supra scaberula, subtus tomentella, nervis lateralibus utrinque 6–7 pagina utraque conspicuis ; petioli 0·7–3·3 cm. longi ; stipulae mediocres, ovatae vel oblongae, acutae, reflexae. *Bracteae* parvae, lanceolatae, acutae. *Receptaculum* plerumque densius hirsutum, 2 mm. altum, 2·5 mm. diametro. *Sepala* lanceolata, acutiuscula, 2 mm. longa, fere 1·5 mm. lata. *Corollae* tubus ad 1·6 cm. longus, 3·5 mm. diametro, extus parce pilosus, intus dense villosus. *Styli* glabri rami 1·3 cm. longi.

Chiengmai, 300 m., *Kerr*, 534 ; behind Ban Djam, 350–500 m., *Hosseus*, 369 (Hb. Kew ! et Copenhagen !).

Distr. Tenasserim, Thoungyen, *Beddome* ; ? Yunnan, *Henry*, 9126.

Henry's specimen is referred here doubtfully as it is in an advanced fruiting stage.

Paederia pilifera, *Hook. f.*, var. **siamensis**, *Craib*, var. nov., a typa foliis angustioribus, fructu majore, eiusque indumento crassiore, sepalis fructescentibus suberectis haud reflexis recedit.

Chiengmai, Doi Sootep, 540 m., *Kerr*, 1076.

The writer has seen only two sheets of *P. pilifera*—the type specimen in the Wallichian herbarium and one collected by Collett (*P. lanuginosa*, Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 67, *non* Wall.). Both are fruiting specimens and Kerr's specimens—also in fruit—differ from the type in the rather narrower more parallel-sided leaves, the somewhat larger fruit crowned by the suberect not reflexed sepals.

Borreria stricta, *K. Sch.* *Spermacoce stricta*, Linn. f.—F.B.I., iii. p. 200.

Chiengmai, in mixed jungle at foot of Doi Sootep, 330 m., *Kerr*, 1348 ; Wang Djao, *Hosseus*, 51.

Distr. S.E. Asia, Trop. Africa, Mascerene Is.

Rubia siamensis, *Craib*, sp. n., a *R. cordifolia*, Linn., foliis semper oppositis, inflorescentiae rachi crassiore, bracteis parvis facile distinguenda.

Caules scandentes, breviter sparse aculeati. *Folia* ovata vel ovato-lanceolata, cordata, apice acuta, 6–11 cm. longa, 3–7·2 cm. lata, chartacea, utrinque costa nervisque aculeata, e basi 3–5-nervata, nervis supra conspicuis subtus prominentibus nervis secundariis obscuris vel subobscuris ; petioli ad 8 cm. longi ut in caulibus aculeati. *Paniculae* axillares, ad 30 cm. longae, bracteis parvis ; pedicelli ad 3 mm. longi. *Receptaculum* 0·5 mm. altum, 1·25 mm. latum, glabrum ; calyx obsoletus. *Corollae* viridis tubus 1·25 mm. longus, lobi lineari-lanceolati, acuti, 2 mm. longi, 1 mm. lati, intra pulverulento-pilulosi. *Discus* parvus, tumidus. *Stylus* brevis, glaber, stigmate capitato 2-lobato.

Chiengmai, Doi Sootep, in evergreen jungle, 900 m., *Kerr*, 1832.

Valerianaceae.

Valeriana Hardwickii, *Wall.*—F.B.I., iii. p. 213.

Chiengmai, Doi Sootep, in open grassy jungle, 1500 m., *Kerr*, 882.

Distr. Himalayas, Burma, Yunnan, Java.

Vernonia bracteata, *Wall.*—F.B.I., iii. p. 232 ; Williams, Bull. Herb. Boiss., v. (1905) p. 957.
Chiengmai, Doi Sootep, 600–650 m., *Kerr*, 828a, *Hosseus*, 313a.
Distr. Himalayas, Burma, Assam.

Vernonia chinensis, *Less.*—F.B.I., iii. p. 235. *V. sinensis*, Williams, Bull. Herb. Boiss., v. (1905) p. 957.
Chiengmai, Doi Sootep, in evergreen jungle, 1200 m., *Kerr*, 789.
Distr. China, throughout Indo-China, Malaya.

Vernonia Cumingiana, *Benth.* ?
Chiengmai, Doi Sootep, 660 m., *Kerr*, 1114.

Vernonia Curtisii, *Craib et Hutchinson*, Kew Bull., 1910, p. 22.
Kedah, Langkawi, *Curtis*, 2127, 3690.

Vernonia divergens, *Edgew.*—F.B.I., iii. p. 234 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 69.
Chiengmai, in evergreen jungle on Doi Sootep, 1200–1650 m., *Kerr*, 524.
Distr. India, Burma, Assam.

Vernonia elaeagnifolia, *DC.*—F.B.I., iii. p. 237 ; For. Fl. Burma, ii. p. 80 ; Williams, Bull. Herb. Boiss., v. (1905) p. 957.
Chiengmai, 300 m., in scrub jungle, *Kerr*, 1693 ; Bangkok, *Schomburgk*, 116, *Zimmermann*, 101 ; Chantaboon, *Murton*, 63.
Distr. Burma.

Vernonia Parishii, *Hook, f.*, F.B.I., iii. p. 240.
Chiengmai, Doi Sootep, 600–1800 m., *Hosseus*, 458.
Distr. Burma, Yunnan.

Vernonia Roxburghii, *Less.*—F.B.I., iii. p. 232.
Wang Djao, *Hosseus*, 50.
Distr. India, Burma.

Vernonia saligna, *DC.*—F.B.I., iii. p. 235.
Doi Intanon, 600 m., *Hosseus*, 328.
Distr. Nepaul, Assam, Burma, Yunnan.

Vernonia teres, *Wall.*—F.B.I., iii. p. 230.
Chiengmai, in eng jungle on Doi Sootep, 300–600 m., *Kerr*, 828.
Distr. India, Burma, Assam, Yunnan.

Vernonia volkamerifolia, *DC.*—F.B.I., iii. p. 240.
Chiengmai, Doi Sootep, 1200–1650 m., *Kerr*, 523, *Hosseus*, 227.
Distr. Sikkim, Assam, Burma.

Adenostemma viscosum, *Forst.*, var. latifolia, *Hook. f.*, F.B.I., iii. p. 242 ; Williams, Bull. Herb. Boiss., v. (1905) p. 957.
Chiengmai, Doi Sootep, 690–900 m., *Kerr*, 1259, 1492.
Distr. Tropics.

Ageratum conyzoides, *Linn.*—F.B.I., iii. p. 243 ; Williams, Bull. Herb. Boiss., v. (1905) p. 958.
Chiengmai, 300 m., "a garden weed," *Kerr*, 1633 ; Doi Sootep, 700 m., *Hosseus*, 483 ; Bankok, *Zimmermann*, 70.
Distr. Tropical Africa eastwards to Japan and Malay Archipelago.

Eupatorium cannabinum, *Linn.*—F.B.I., iii. p. 243.

Chiengmai, Doi Sootep, in open grassy jungle, 1500 m., *Kerr*, 1387.

Distr. Europe and Temperate Asia.

Eupatorium odoratum, *Linn.*—F.B.I., iii. p. 244; Williams, Bull. Herb. Boiss., v. (1905) p. 962.

Chiengmai, Doi Sootep, 300–720 m., *Kerr*, 924; Nakontai, 300 m., *Hosseus*, 718a; Raheng, *Lindhard*, 71.

A native of W. Indies—firmly established in Burma.

Grangea maderaspatana, *Poir.*—F.B.I., iii. p. 247; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 70.

Chieng Dao, banks of Meh Ping, 350 m., *Hosseus*, 526; Chiengmai, 300 m., *Kerr*, 1696—"a garden weed."

Distr. Tropical Asia and Africa.

Aster trinervius, Roxb.—F.B.I., iii. p. 252.

Doi Chieng Dao, 2000 m., *Hosseus*, 406.

Distr. Himalayas, Burma, Assam, China, Japan.

The Siam plant quoted is the *A. asperrimum*, Wall. Cat. 2970 in Herb. Kew.

Erigeron linifolium, *Willd.*

Chiengmai, on old clearings on Doi Sootep, 720 m., *Kerr*, 646.

Distr. Japan and Philippines to Canaries.

Conyza viscidula, *Wall.*—F.B.I., iii. p. 258.

Chiengmai, Doi Sootep, 720–900 m., *Kerr*, 1725, *Hosseus*, 306.

Distr. India, Burma, Assam, China, Malay Archipelago, Australia.

Blumea aromatica, *DC.*—F.B.I., iii. p. 270.

Chiengmai, Doi Sootep, 1650 m., *Kerr*, 1675.

Distr. Himalayas, Yunnan, Khasia, Tenasserim.

Blumea balsamifera, *DC.*—F.B.I., iii. p. 270; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 71; Williams, Bull. Herb. Boiss., v. (1905) p. 958.

Muang Prow, 480 m., *Kerr*, 1037.

Distr. India, Burma, Assam, Tonkin, Malaya.

Blumea glomerata, *DC.*—F.B.I., iii. p. 262; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 71; Williams, Bull. Herb. Boiss., v. (1905) p. 958.

Chiengmai, Doi Sootep, 300–700 m., *Kerr*, 940, *Hosseus*, 294.

Distr. India, Burma, Assam, S. China, Malay Archipelago, Philippines.

Blumea hieracifolia, *DC.*—F.B.I., iii. p. 263; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 71.

Chiengmai to Muang Fang, 450 m., *Hosseus*, 294a.

Distr. India, Burma, China, Tonkin, Java.

Blumea Hossei, *Craib*, sp. n., ab affini *B. gracili*, Dunn, foliis acutis haud integris facile distinguenda.

Herba erecta, 25–40 cm. alta; caules solitarii, graciles, simplices, scabriduli praetereaque superne albo-pilosi. *Folia* caulis apicem versus gradatim decrescentia, sessilia, lanceolata vel oblanceolata, apice acuta, mucronata, 2·5–6 cm. longa, 0·7–1·2 cm. lata, margine irregulariter dentata dentibus induratis, rigida, supra juventute pilis albidis deciduis basi incrassatis instructa, mox partibus incrassatis persistentibus scabridula, subtus glabrescentia, primo costa nervisque

praecipue pilosa, dentibus exceptis ciliata, nervis lateralibus utrinque circiter 6 pagina superiore obscuris inferiore prominulis. *Capitula* ad caulis apicem congesta, erecta, circiter 7 mm. longa, 7 mm. lata, pedunculis brevibus suffulta. *Involucri* campanulati bracteae lineari-lanceolatae, acuminatae, acutae, exteriores gradatim minores, ciliolatae, extus pubescentes.

Chiengmai, Doi Sootep, 1050 m., *Hosseus*, 494 (Herb. Kew! et Copenhagen!).

Blumea membranacea, *DC.*, var. **subsimplex**, *Hook. f.*, F.B.I., iii. p. 265; Williams, Bull. Herb. Boiss., v. (1905) p. 962.

Chiengmai, at foot of Doi Sootep, 300 m., *Kerr*, 941.

Distr. Sikkim, Bengal, Assam, Burma.

Zimmermann's specimen from Bangkok quoted by Williams l.c. p. 958 under *B. virens* is referable rather to *B. membranacea*, and probably is the variety *subsimplex* of that species.

Blumea oxyodonta, *DC.*—F.B.I., iii. p. 266; Williams, Bull. Herb. Boiss., v. (1905) p. 958.

Ban Gao, 360 m., *Hosseus*, 384.

Distr. India, Burma, China, Philippines.

Evidently allied to this species is *Hosseus*, 482, from Doi Sootep.

Laggera alata, *Schultz-Bip.*—F.B.I., iii. p. 271; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 71.

Chiengmai, in open grassy jungle on Doi Sootep, 1350 m., *Kerr*, 1688.

Distr. S.E. Asia, Trop. Africa.

Laggera flava, *Benth.*—F.B.I., iii. p. 270; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 71; Williams, Bull. Herb. Boiss., v. (1905) p. 958.

Chiengmai, Doi Sootep, 300–800 m., *Kerr*, 939, *Hosseus*, 292; Raheng, *Lindhard*, 62.

Distr. India, Burma, Assam, Yunnan, Malay Peninsula.

Laggera pterodonta, *Benth.*—F.B.I., iii. p. 271; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 71.

Chiengmai, Doi Sootep, 1650 m., *Kerr*, 1676.

Distr. Trop. Asia and Africa.

Pluchea eupatorioides, *Kurz*—Williams, Bull. Herb. Boiss., v. (1905) p. 958.

Meh Kung, 420 m., *Kerr*, 1021.

Distr. Burma, Szemao (*Bons d'Arty*, 218).

Sphaeranthus indicus, *Linn.*—F.B.I., iii. p. 275; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 72.

Chiengmai, 300 m., in paddy fields, *Kerr*, 1666.

Distr. Trop. E. Asia, Africa, Australia.

Kerr's plant belongs to the form *mollis* (*Roxb.* pro sp.).

Anaphalis margaritacea, *Benth.*

Chiengmai, Doi Sootep, 1700 m., *Hosseus*, 189.

Distr. Asia, N. America.

Gnaphalium indicum, *Linn.*—F.B.I., iii. p. 289; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 72.

Chiengmai, Doi Sootep, 700–900 m., *Hosseus*, 274, 487; Chiengmai, 300 m., *Kerr*, 1671—"a garden weed."

Distr. Senegal to China and Japan and south to Australia.

Gnaphalium multiceps, *Wall.*—Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 72. *G. luteo-album*, Linn., var. *multiceps*, Hook. f., F.B.I., iii. p. 288.

Chiengmai, Doi Sootep, 660–700 m., *Kerr*, 1144, *Hosseus*, 488.

Distr. North India, Burma, Assam, China, Japan, Tonkin, Malay Archipelago.

Inula Cappa, *DC.*—F.B.I., iii. p. 295; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 72.

Chiengmai, Doi Sootep, 300–1570 m., *Kerr*, 937, *Hosseus*, 231, 289; Doi Chieng Dao, 2180 m., *Hosseus*, 396.

At first sight remarkably different from the Simla form, this plant is probably *I. oblonga*, DC.

Inula eupatorioides, *DC.*—F.B.I., iii. p. 295.

Doi Intanon, 1000 m., *Hosseus*, 331.

Distr. Khasia, Yunnan, Himalayas to Sikkim.

Inula nervosa, *Wall.*, var.?

Chiengmai, in open grassy jungle on Doi Sootep, 1350–1500 m., *Kerr*, 1502.

Distr. Himalayas, Khasia, Naga Hills, Manipur.

Inula polygonata, *DC.*—F.B.I., iii. p. 293; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 72; Williams, Bull. Herb. Boiss., v. (1905) p. 962.

Chiengmai, Doi Sootep, 300–800 m., *Kerr*, 916, *Hosseus*, 290; Nakontai, *Hosseus*, 725; Raheng, *Lindhard*, 3.

Distr. Burma.

Inula rubricaulis, *C. B. Clarke*—F.B.I., iii. 296.

Doi Chieng Dao, 2100 m., *Hosseus*, 417.

Distr. Himalayas, Assam, Yunnan.

Inula sp.

Chiengmai, Doi Sootep, 700 m., *Hosseus*, 422.

Vicoa auriculata, *Cass.*—F.B.I., iii. p. 297; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 73.

Chiengmai, Doi Sootep, 300–600 m., *Kerr*, 930, *Hosseus*, 293.

Distr. India, Burma, Yunnan.

Xanthium strumarium, *Linn.*—F.B.I., iii. p. 303.

Muang Prow, 480 m., *Kerr*, 1039.

Distr. Tropics and subtropics.

Siegesbeckia orientalis, *Linn.*—F.B.I., iii. p. 304.

Chiengmai, by a temple on waste ground on Doi Sootep, 1020 m., *Kerr*, 863.

Distr. Tropics and subtropics.

Enhydra fluctuans, *Lour.*—F.B.I., iii. p. 304; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 73.

Bangkok, *Zimmermann*, 98; Chiengmai, 300 m., *Kerr*, 1667.

Distr. S. E. Asia, Australia, Tropical Africa.

Bidens pilosa, *Linn.*—F.B.I., iii. p. 309.

Chiengmai, Doi Sootep, in open grassy spots, 720 m., *Kerr*, 743.

Distr. Cosmopolitan in warm regions.

The plant quoted by Collet and Hemsley, Journ. Linn. Soc., xxviii. p. 74, as *Bidens pilosa*, var. is *Glossogyne tenuifolia*, Cass.

Gynura pseudo-china, *DC.*—F.B.I., iii. p. 334 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 74.
Chiengmai, Doi Sootep, 660 m., *Kerr*, 1802.
Distr. India, Burma, Malaya.

Emilia angustifolia, *DC. E. prenanthoidea*, DC.—F.B.I., iii. p. 336.
Chiengmai, Doi Sootep, 700–1050 m., *Kerr*, 1118, *Hosseus*, 269, 489.
Distr. Sikkim, Assam, Yunnan, Philippines.

Senecio Craibiana, *Hosseus*.
Doi Chieng Dao, 1800–2200 m., *Hosseus*, 395 (Herb. Kew! Hoss.! Copenhagen!).

Senecio nagensium, *C. B. Clarke*, var. **Lobbii**, *Craib. S. densiflorus*, Wall., var. *Lobbii*, Hook. f., F.B.I., iii. p. 355.
Chiengmai, Doi Sootep, 960 m., *Kerr*, 952 ; Doi Chieng Dao, 1160 m., *Hosseus*, 397 ; Doi Intanon, 1180 m., *Hosseus*, 335.
Distr. Burma.
This plant may eventually prove to be a rayed state of *S. nagensium*. To the writer, the plant referred to this species by Collett and Hemsley, Journ. Linn. Soc., xxviii. p. 75, appears distinct, its leaves being rounded not cuneate at the base and the serrations being much finer.

Senecio triligulatus, *Ham.*—F.B.I., iii. p. 356.
Chiengmai, Doi Sootep, in evergreen jungle, 1650 m., *Kerr*, 1679.
Distr. E. Himalayas, Burma, Yunnan.

Saussurea phyllocephala, *Coll. et Hemsl.*, Journ. Linn. Soc., xxviii. p. 76.
Chiengmai, Doi Sootep, 1350–1570 m., *Kerr*, 1642, *Hosseus*, 230.
Distr. Upper Burma.

Tricholepis karensium, *Kurz*—F.B.I., iii. p. 380.
Chiengmai, Doi Sootep, in open jungle, 1350–1500 m., *Kerr*, 1641.
Distr. Karren, Tenasserim, Yunnan.

Leucomeris decora, *Kurz*, For. Fl. Burma, ii. p. 78; F.B.I., iii. p. 387 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 77.
Chiengmai, Doi Sootep, 1380 m., *Kerr*, 601 ; Phre, 156–240 m., *Luang Vanpruk*, 113.
Distr. Burma, Yunnan.

Ainsliæa pteropoda, *DC.*—F.B.I., iii. p. 388.
Doi Intanon, 2565 m., *Hosseus*, 358a.
Distr. Himalayas, Assam, Burma, Yunnan.
The Shan Hill plant quoted by Collett and Hemsley, Journ. Linn. Soc., xxviii. p. 77, under this species is a much more robust plant, and is C. B. Clarke's *A. silhetensis* which that author afterwards regarded as a variety of *A. pteropoda*.

Pertya Hossei, *Craib*, sp. n., a *P. scandente*, Sch. Bip., foliis rigidioribus, capitulis paulo longioribus, a *P. ovata*, Maxim., ramulis glabris, foliis minoribus, capitulis longioribus angustioribus, involucri bracteis paucioribus recedit.
Suffrutex 1·5 m. altus (*ex Hosseo*) ; ramuli graciles, angulati, glabri, cortice cinereo-brunneo. *Folia* alterna, ovato-lanceolata vel

ovata, apice acuta, basi cuneata, 1·5–3·3 cm. longa, 1–2 cm. lata, subcoriacea vel rigide chartacea, glabra nisi margine ciliolata, distanter pauci-serrata, trinervata, nervis supra conspicuis subtus prominulis; petioli breves. *Capitula* pluriflora, 2·3 cm. longa; involucri bracteae circiter 6-seriatae, exteriores parvae ovatae, interiores lineari-oblongae, obtusae, rigidae, glabrae. *Corollae* tubus 1 cm. longus, superne ampliatus, lobi anguste lineari-lanceolati, apice revoluti, 0·5 cm. longi. *Antherae* circiter 0·5 cm. longae, basi caudis 2 mm. longis ciliatis instructae. *Achaenia* vix matura, pilosula, costata.

Doi Chieng Dao, 2100 m., *Hosseus*, 405 (Herb. Kew! et Copenhagen!).

Gerbera piloselloides, *Cass.*—F.B.I., iii. p. 389; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 77.

Chiengmai, on tops of ridges in open jungle on Doi Sootep, 1350–1500 m., *Kerr*, 621.

Distr. N. India, China, Trop. and S. Africa, Mascerene Islands.

Crepis acaulis, *Hook. f.*, F.B.I., iii. p. 396; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 78.

Chiengmai, 300 m., *Hosseus*, 442; Doi Sootep, 720 m., *Kerr*, 1727.

Distr. India, Burma, Assam, Yunnan.

Crepis chloroclada, Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 78.

Chiengmai, in open grassy jungle on Doi Sootep, 1200 1500 m., *Kerr*, 1108.

Distr. Upper Burma, Yunnan.

Crepis japonica, *Benth.*—F.B.I., iii. p. 395; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 78.

Muang Fang, 300 m., *Hosseus*, 615.

Distr. Japan south to Australia and west to Afghanistan and S. Africa.

Lactuca Parishii, *Craib*, sp. n., ab affini *L. alatipidi*, Coll. et Hemsl., foliorum lobis numerosioribus, lobo terminali basi fere recto marginibus rectis vel nonnihil concavis sed nunquam convexis, lobis lateralibus a lobo terminali haud tam distantibus, achæniorum rostris multo brevioribus recedit.

Herba glabra, robusta, 12 dm. vel ultra alta. *Folia* caulina inferiora petiolo 7–12 cm. longo alato suffulta, pinnatisecta, 14–31 cm. longa, lobo terminali deltoideo acuto 9–14 cm. longo 7–11 cm. lato, lobis lateralibus utrinque 2–4 supremis a lobo terminali nunquam ultra 1 cm. distantibus plerumque lanceolatis acutis 2–5 cm. longis 1·2–2·5 cm. latis, rachi inter lobos alata, membranacea, margine irregulariter lobata et praeterea distanter denticulata. *Capitula* laxe paniculata, erecta, circiter 12-flora, vix 1·5 cm. longitudinis attingentia. *Achaenia* compressa, 0·5 cm. alta, apice in rostrum 1 mm. longum attenuata, faciebus circa 5-costata, costis superne praecipue pilis brevibus rigidis scabridula.

Burma, Moulmein, 1200–1500 m., *Parish*, 423.

Chiengmai, Doi Sootep, 600–1000 m., *Hosseus*, 454 (Herb. Kew! et Hoss.!), *Kerr*, 1683.

Campanulaceae.

Pratia begonifolia, *Lindl.*—F.B.I., iii. p. 422 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 80.

Chiengmai, Doi Sootep, 1350 m., *Kerr*, 706.

Distr. S.E. Asia.

Lobelia affinis, *Wall.*—F.B.I., iii. p. 424.

Chiengmai, Doi Sootep, 900–1050 m., *Hosseus*, 497, *Kerr*, 1756.

Distr. India, Burma, Assam, S. China, Malaya.

Lobelia Griffithii, *Hook. f. et Th.*, var. **dopatrioides**, *Kurz*, Journ. As. Soc. Beng., xlvi. p. 211. *L. Griffithii*, Hook. f. et Th.—F.B.I., iii. p. 424, pro parte.

Chiengmai, Doi Sootep, 330 m., *Kerr*, 1466.

Distr. Burma.

Closely allied to this plant is *Hosseus*, 462 from Doi Chieng Dao.

Lobelia terminalis, *C. B. Clarke*, F.B.I., iii. p. 424.

Chiengmai, Doi Sootep, 800 m., *Hosseus*, 268.

Distr. N. Bengal.

Lobelia trialata, *Ham.*—F.B.I., iii. p. 425.

Chiengmai, Doi Sootep, in open jungle, 660–1350 m., *Kerr*, 1517.

Distr. N. India, Burma, Assam, Java.

Campanumaea celebica, *Blume*—F.B.I., iii. p. 436.

Chiengmai, Doi Sootep, 660 m., *Kerr*, 1217.

Distr. Himalayas, Burma, Borneo.

Campanumaea cordata, *Maxim.* *Codonopsis cordata*, Hassk., Retzia, i. p. 9.

Chiengmai, in evergreen and open jungle on Doi Sootep, 900–1200 m., *Kerr*, 1371.

Distr. Java, Sumatra.

I have seen neither Hasskarl's original plant nor the type of *C. javanica*, Bl. Kerr's plant agrees with a plant collected by Teysmann and named *C. cordata* by Miquel, which plant however Koorders regards as *C. javanica*, Blume.

Vacciniaceae.

Agapetes Hosseana, *Diels*, Fedde Rep. Nov. Sp., i. p. 16 ; Hosseus, Bot. Centralbl., Beihefte, xxvii. 2, p. 507.

Chiengmai, Doi Sootep, 1350–1650 m., *Hosseus*, 219, *Kerr*, 514 ; Doi Intanon, 2550 m., *Hosseus*, 351 ; Doi Chieng Dao, 2180 m., *Hosseus*, 393.

Lao name, Dog Ga fag, (ex *Hosseo*, l.c.).

Karen name, Lonuteho, (ex *Hosseo*, l.c.).

Vaccinium exaristatum, *Kurz*—For. Fl. Burma, ii. p. 91 ; Coll et Hemsl., Journ. Linn. Soc., xxviii. p. 81. *V. bancanum*, C. B. Clarke, F.B.I., iii. p. 454, pro parte, *non* Miq. *V. Donianum*, Hosseus, Bot. Centralbl., Beihefte, xxvii. 2, p. 506 (at least for *Hosseus*, 425), *non* Wight.

Chiengmai, Doi Sootep, 700–1350 m., *Kerr*, 541, *Hosseus*, 425 ; Phre, 156–240 m., *Luang Vanpruk*, 114.

Distr. Burma, Manipur.

Closely allied to this species is *Hosseus*, 204 from Doi Sootep (*V. Leschenaultii*, Hosseus, l.c., p. 506, *non* Wight), and also *V. mandarinorum*, Diels, from China.

Ericaceae.

Rhododendron moulmainense, *Hook. f.*—F.B.I., iii. p. 463. *R. siamensis*, Diels, Fedde Rep. Nov. Sp., iv. p. 289; Hosseus, Bot. Centralbl., Beihefte, xxvii. 2, p. 506.
Chiengmai, Doi Sootep, 1500 m., *Hosseus*, 507.
Distr. Moulmein

Rhododendron oxyphyllum, *Franchet.*
Chiengmai, common in evergreen jungle on Doi Sootep, 900–1350 m., *Kerr*, 539.
Distr. Yunnan.
Very close to and probably not specifically distinct from *R. moulmainense*, Hook. and *R. Westlandii*, Hemsl.

Rhododendron Veitchianum, *Hook. f.* — F.B.I., iii. p. 474. *R. formosum*, Wall., var. *Veitchianum*, Hosseus, Bot. Centralbl., Beihefte, xxvii. 2, p. 505.
Chiengmai, common in evergreen jungle on Doi Sootep, 1350–1650 m., *Kerr*, 512, *Hosseus*, 201.
Distr. Burma, Manipur.

Rhododendron Ludwigianum, *Hosseus.*
Doi Chieng Dao, 2180 m., *Hosseus*, 401.

Pieris ovalifolia, *D. Don*—F.B.I., iii. p. 460; Hosseus, Bot. Centralbl., Beihefte, xxvii. 2, p. 506. *Andromeda ovalifolia*, Wall.—For. Fl. Burma, ii. p. 92.
Chiengmai, Doi Sootep, 1350–1650 m., *Kerr*, 674, *Hosseus*, 533a.
Distr. Himalayas, Burma, Assam, China, Japan.

Craibiodendron shanicum, *W. W. Smith*, Rec. Bot. Surv. Ind., iv. p. 277.
Chiengmai, Doi Sootep, 360–840 m., *Kerr*, 1282, 1282a, 1369.
Distr. Burma, Yunnan.

Monotropaceae.

Hypopithys lanuginosa, *Nutt.*—F.B.I., iii. p. 476.
Chiengmai, Doi Sootep, in evergreen jungle, 1230 m., *Kerr*, 678.
Distr. Himalayas, Khasia, China, Japan, N. America, Mexico.

Plumbaginaceae.

Ceratostigma asperrimum, *Stapf ex Prain*, Journ. Bot., (1906) p. 6. *C. plumbaginoides*, Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 81., *non* Bunge.
Doi Chieng Dao, 1900 m., *Hosseus*, 398, pro parte.
Distr. Shan Hills.

Ceratostigma Stapfianum, *Hosseus.*
Doi Chieng Dao, 1900 m., *Hosseus*, 398, pro parte.

Plumbago zeylanica, *Linn.*—F.B.I., iii. p. 480.
Chiengmai, 330 m., *Kerr*, 1704.
Distr. Tropics.

Primulaceae.

Lysimachia japonica, *Thunb.*—F.B.I., iii. p. 505.

Chiengmai, in marshy ground on Doi Sootep, 660 m., *Kerr*, 1146.

Distr. Himalayas to Japan and southwards to Australia.

Kerr's plant belongs to the form *L. debilis*, Wall.

Lysimachia peduncularis, *Wall.*—F.B.I., iii. p. 504.

Chiengmai, Doi Sootep, 420 m., *Kerr*, 1457.

Distr. Upper Burma.

Myrsinaceae.

Maesa montana, *DC.*—Mez, Engler Pflanzenr., Myrsin., p. 28.

Chiengmai, in evergreen jungle on Doi Sootep, 1050 m., *Kerr*, 954, 1110.

Distr. E. Himalayas, Burma, Assam.

Maesa permollis, *Kurz*—Mez, Engler Pflanzenr., Myrsin., p. 51. *M. mollissima*, Kurz, For. Fl. Burma, ii. p. 66, *non* DC. *M. mollis*, C. B. Clarke, F.B.I., iii. p. 510 pro parte, *non* DC.

Chiengmai, in dense evergreen jungle on Doi Sootep, 1650 m., *Kerr*, 1677.

Distr. Yunnan, Upper Burma.

Maesa ramentacea, *DC.*—F.B.I., iii. p. 508; For. Fl. Burma, ii. p. 99; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 81; Williams, Bull. Herb. Boiss., v. (1905) p. 226; Mez, Engler Pflanzenr., Myrsin., p. 27.

Chiengmai, Doi Sootep, 330–900 m., *Kerr*, 519, 526, *Hosseus*, 281; Phre, Hooey Kong Muang, 240 m., *Luang Vanpruk*, 219.

Distr. S.E. Asia (excl. Philippines).

Embelia pulchella, *Mez*, Engler Pflanzenr., Myrsin., p. 324.

Chiengmai, a woody climber in evergreen jungle on Doi Sootep, 1650 m., *Kerr*, 1687.

Distr. Manipur.

The writer has failed to trace in Herb. Kew any of *Griffiths'* 3545 which he could refer to *Watt* 7277 from Manipur. Consequently the type of Mez's species has been taken as *Watt* 7277 (♀). *Kerr's* plant quoted above is ♂ and has the calyx lobes exactly as in Watt's plant, and not as described and figured by Mez.

Embelia sootepensis, *Craib*, sp. n., ab *E. robusta*, Roxb., foliis dentatis facile distinguenda.

Ramuli graciles, juventute parce pilosi, mox fere glabri, cortice cinereo-brunneo obtecti. *Folia* oblanceolata vel elliptico-oblanceolata, apice acuminata, acuta, basi cuneata, 8–15 cm. longa, 2·5–6 cm. lata, membranacea vel tenuiter chartacea, parte basali excepta dentata, supra pilosula, subtus costa nervisque puberula, nervis lateralibus utrinque 6–8 intra marginem arcuatis supra conspicuis subtus prominulis; petioli 1–1·5 cm. longi, supra canaliculati, puberuli. *Racemi* simplices, axillares, solitarii, ad 3 cm. longi, pedunculo brevi suffulti; pedicelli 2 mm. longi, ut in rachi glanduloso-puberuli; bracteae filiformes, circiter 1 mm. longae. *Calycis* lobi lanceolati, acuti, 1 mm. longi, 0·5 mm. lati, dorso glanduloso-puberuli, ciliati, pauci-punctati. *Corollae* segmenta lanceolata, acutiuscula, 2·75 mm. longa, 1 mm. lata, extra glabra, intra papillosa, pauci-punctata. *Stamina* corollam aequantia, antheris dorso punctatis.

Chiengmai, in mixed jungle on Doi Sootep, 330 m., *Kerr*, 1355.

Embelia stricta, *Craib*, sp. n., *E. sessiliflorae*, Kurz, valde affinis sed floribus fructibusque sessilibus, floribus majoribus in paniculas terminales rigidiores minus ramosas parcius puberulas dispositis differt.

Suffrutex scandens ; ramuli primo parce puberuli, mox glabi, cortice rubro-brunneo irregulariter fisso obtecti. *Folia* oblongo-elliptica, apice obscure acuminata, obtusa, basi obtusa vel rotundata, 3·5–9·5 cm. longa, 1·2–4·7 cm. lata, rigide chartacea, utrinque glabra, supra nitida, subtus pallidiora, haud nitida, nervis lateralibus utrinque numerosis subparallelis obliquis pagina utraque conspicuis ; petioli 0·8–1 cm. longi, irregulariter alati. *Spicae* et solitariae axillares et in paniculas terminales dispositae, rigidiusculae, strictae, ad 9 cm. longae, rachi puberula ; bracteae deciduae, linearilanceolatae, acutae, 3 mm. longae, patentes vel reflexae. *Calyx* fere ad basin 5-partitus, 1·75 mm. altus, segmentis deltoideis late acutiusculis 1 mm. latis extra puberulis ciliatis. *Petala* viridia, oblongo-elliptica, 2·75 mm. longa, 1·5 mm. lata. *Antherae* parvae, filamentis ad $\frac{1}{3}$ longitudinis affixis. *Ovarium* glabrum, stylo brevi, stigmate discoideo. *Fructus* globosus, apiculatus, 5 mm. diametro.

Chiengmai, Doi Sootep, 1650 m., *Kerr*, 1753.

Embelia villosa, *Wall.* *E. robusta*, C. B. Clarke, F.B.I., iii. p. 515, pro parte.

Chiengmai, Doi Sootep, in evergreen jungle, 900 m., *Kerr*, 1212.

Distr. Bengal, Burma.

Kerr's plant may belong to the form *reticulata* (Wall. et Mez pro sp.), but in view of the poor material available the writer does not feel justified in maintaining both species.

Ardisia andamanica, *Kurz*?—F.B.I., iii. p. 521 ; For. Fl. Burma, ii. p. 108.

Koh Klone, *Murton*, 10 ; Kow Chang Nun, *Murton*, 22.

Distr. Andamans, Malay Peninsula.

Ardisia arborescens, *Wall.* *A. humilis*, DC., var. *arborescens*, C. B. Clarke, F.B.I., iii. p. 530.

Chiengmai, Doi Sootep, 720 m., *Kerr*, 565.

Distr. Burma (*Collett*), Chota Nagpur (*C. B. Clarke*).

Ardisia corymbifera, *Mez*, Engler Pflanzenr., Myrsin., p. 149.

Chiengmai, growing to a height of about 1·2 m., flowers pink, spotted finely with purple, in evergreen jungle on Doi Sootep, 1500–1650 m., *Kerr*, 600, 1815.

Distr. Yunnan.

Ardisia Kerrii, *Craib.*, sp. n., ab affini *A. yunnanensi*, Mez, foliis oblanceolatis vel obovato-oblanceolatis apice abrupte acuminatis, indumento vix tam denso magis cito deciduo, floribus minoribus differt.

Arbor 4·5–7·5 m. alta (*ex Kerr*) ; ramuli validi, primo ferrugineo-tomentelli, mox glabrescentes, cortice cinereo obtecti. *Folia* oblanceolata vel obovate-oblanceolata, apice abrupte breviter acuminata, acutiuscula, basi cuneata, 4·5–13 cm. longa, 2·2–5·2 cm. lata, chartacea, supra fusco-viridia, subtus pallidiora, utrinque glabra, subtus lepidibus minutis ferrugineis instructa, nervis lateralibus utrinque numerosis parallelis supra conspicuis subtus prominulis, costa supra sicco impressa ; petioli 8 mm. longi. *Inflorescentia* submultiflora, e corymbis pinnatim dispositis constituta, foliis brevior ;

pedicelli graciles, 7–8 mm. longi. *Calycis* lobi deltoidei, subacuti, 0·75 mm. longi, 1 mm. lati, ciliolati. *Corollae* tubus brevis, lobi oblongi, subacuti, 2 mm. longi, fere 1·5 mm. lati, glabri. *Stamina* corollae subaequalia, antheris acuminatis. *Stylus* porrectus, ante anthesin exsertus.

Chiengmai, in evergreen jungle on Doi Sootep, 600–660 m., *Kerr*, 668, 1216.

Ardisia maculosa, *Mez*, Engler Pflanzenr., Myrsin., p. 143.

Chiengmai, a thin bush about 1·5 m. high, flowers purple, in evergreen jungle on Doi Sootep, 900 m., *Kerr* 699.

Distr. Yunnan.

Ardisia vestita, *Wall.* *A. villosa*, Roxb.—F.B.I., iii. p. 525; For. Fl. Burma, ii. p. 113.

Chiengmai, Doi Sootep, in evergreen jungle, 720–900 m., *Kerr*, 667.

Distr. Hainan, Yunnan, Malaya.

Ebenaceae.

Maba buxifolia, *Pers.*—F.B.I., iii. p. 551; For. Fl. Burma, ii. p. 139; Williams, Bull. Herb. Boiss., v. (1905) p. 227.

Chiengmai, Doi Sootep, in deciduous jungle, 540 m., *Kerr*, 594, 1134.

Distr. S.E. Asia, Australia, Trop. Africa.

Diospyros ehretioides, *Wall.*—F.B.I., iii. 559; For. Fl. Burma, ii. p. 129.

Chiengmai, in deciduous jungle on Doi Sootep, 300–540 m., *Kerr*, 577, 1147.

Distr. Burma.

Diospyros Kerrii, *Craib*, sp. n., *D. Packmanni*, C. B. Clarke, habitu similis sed calycis haud ferruginei lobis fere e basi liberis facile distinguenda.

Arbor 9 m. alta (*ex Kerr*); ramuli primo dense appresse ferrugineo-hirsuti, plus minusve glabrescentes. *Folia* lanceolata vel oblongo-lanceolata, apice acuminata, subacuta, basi cuneata vel rotundata, 4–10·5 cm. longa, 2–4 cm. lata, rigide chartacea, margine integra, supra juventute costa tantum pubescentia, mox omnino glabra, subtus costa indumento ut in ramulis novellis, nervis lateralibus utrinque circiter 8 intra marginem arcuatis pagina utraque juventute conspicuis mox fere obscuris; petioli circiter 5 mm. longi, indumento ramulorum. *Cymae* ♂ axillares, pauciflorae, pedunculo communi vix 1 cm. longo indumento ut in ramulis suffultae. *Calycis* segmenta 4, subrotundata, 3 mm. longa, 2·75 mm. lata, extus appresse albo-pubescentia, intus glabra. *Corolla* urceolata, extus ut in calyce pubescens, intus superne albo-pilosa; tubus 3·5 mm. longus; lobi 4, lanceolati, acutiusculi, sub anthesin recurvi, circa 4 mm. longi, 2 mm. lati. *Antherae* geminae, 14, acuminatae, filamento communi 1 mm. longo glabro, filamentis partialibus 1–1·75 mm. longis parce albo-hirsutis. *Ovarii* rudimentum parvum, subglobosum, apice pilis paucis albis ornatum.

Chiengmai, Doi Sootep, in evergreen jungle, 660 m., *Kerr*, 1090.

Diospyros mollis, *Griffith*, Journ. Agric. Hortic. Soc. Ind., iii. (1844) p. 145.
Chiengmai (ex *Griffith*, l.c.).
Distr. Burma.

Diospyros Packmanni, *C. B. Clarke*, F.B.I., iii. p. 564.
Chiengmai, 300 m., *Kerr*, 1818 ; Bangkok, *Murton*, 12, *Zimmermann*, 172—often cultivated.
Distr. Tavoy.
Lao name, M'Chunn (ex *Kerr*).

Diospyros rhodocalyx, *Kurz*, For. Fl. Burma, ii. p. 133.
Siam (ex *Kurz*, l.c.).

Diospyros siamensis, *Hochr.*, Pl. Bog. Exsicc., No. 73.
Very closely allied to *D. Embryopteris*, Pers. *Schomburgk*, 115, which Williams erroneously states "was not kept," is also allied.

Diospyros variegata, *Kurz*—F.B.I., iii. p. 557 ; For. Fl. Burma, ii. p. 137.
Chiengmai, in evergreen jungle on Doi Sootep, 660–720 m., *Kerr*, 1132, 1789.
Distr. Burma, Assam.

Styracaceae.

Symplocos adenophylla, *Wall.*—F.B.I., iii. p. 575.
Kedah, (ex Mat. Mal. Pen., 17, p. 241).
Distr. Malaya.

Symplocos racemosa, *Roxb.*—F.B.I., iii. p. 576 ; For. Fl. Burma, ii. p. 144 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 83.
Chiengmai, Doi Sootep, 540–600 m., *Kerr*, 928, 1767, *Hosseus*, 311.
Distr. Himalayas, Burma, Assam.

Symplocos spicata, *Roxb.*, var. **attenuata**, *C. B. Clarke*, F.B.I., iii. p. 573.
Kedah, (ex Mat. Mal. Pen., 17, p. 238).
Distr. Assam, Burma.

Symplocos yunnanensis, *Brand*, Engler Planzenr., Symploc., p. 68.
Chiengmai, in evergreen jungle on Doi Sootep, 1650 m., *Kerr*, 1507.
Distr. Yunnan.

Symplocos sp. *S. racemosae* et *S. pirifoliae* habitu similis.
Chiengmai, Doi Sootep, 1020 m., *Kerr*, 890.

Styrax benzoin, *Dryand*—F.B.I., iii. p. 589.
Chiengmai, Doi Sootep, 1050–1350 m., *Kerr*, 669.
Distr. Malaya.

Oleaceae.

Jasminum arborescens, *Roxb.*, var. **latifolia**, *C. B. Clarke*, F.B.I., iii. p. 594 ?
Chiengmai, in scrub jungle, 330 m., *Kerr*, 1659.
Distr. Himalayas.

Jasminum decussatum, *Wall.*—F.B.I., iii. p. 596 ; For. Fl. Burma, ii. p. 151.
Bangkok, *Zimmermann*, 9
Distr. Burma.

Jasminum Maingayi, *C. B. Clarke*, var. kedahensis, *King et Gamble*, Mat. Mal. Pen. 17, p. 258.

Kedah, (ex Mat. Mal. Pen., l.c.).

Jasminum sootepense, *Craib*, sp. n., *J. auriculato*, Vahl et *J. brevilobo*, DC., similis, ab illo inflorescentia pauperrima, ab hoc cymis haud capitatis distincta.

Suffrutex sarmentosus, circiter 6 dm. altus (ex *Kerr*); ramuli graciles, primo densius molliter puberuli; rami fere glabri, cortice rubro-brunneo striato obtecti. *Folia* simplicia, ovato-rotundata, ovata vel rarissime ovato-lanceolata, apice plerumque breviter acuminata, mucronulata, basi rotundata vel obtusa, 2–4 cm. longa, 1·6–3 cm. lata, chartacea, utrinque, subtus densius, molliter puberula, nervis lateralibus utrinque circiter 4 intra marginem arcuatis supra subconspicuis subtus prominulis, nervis transversis haud conspicuis; petioli 2–4 mm. longi, indumento ut in ramulis. *Flores* axillares, solitarii vel in cymas simplices 3-flores dispositi, albi, nocte expansi (ex *Kerr*); bracteae minutae; pedicelli 5–7 mm. longi, parce puberuli. *Calycis* tubus circiter 2·5 mm. longus, extus glaber, dentes late triangulares, parvi, ciliolati. *Corollae* tubus gracilis, 1·8 cm. longus, lobi lineares, apice acuti vel breviter acuminati, circiter 1 cm. longi, 2 mm. lati. *Antherae* 5 mm. longae, apice acuminatae, filamentis brevibus. *Ovarium* vix 1 mm. altum, glabrum.

Chiengmai, in deciduous jungle on Doi Sootep, 360 m., *Kerr*, 1235.

Nyctanthes Arbor-tristis, *Linn.*—F.B.I., iii. p. 603; For. Fl. Burma, ii. p. 155.

Bangkok, *Zimmermann*, 87.

Cultivated in tropics.

Linociera caudata, *Coll. et Hemsl.*, Journ. Linn. Soc., xxviii. p. 84.

Meh Ping, Chieng Dao, 390 m., in evergreen jungle, *Kerr*, 1058; Me Sangon Phre, 240 m., *Luang Vanpruk*, 238.

Distr. Upper Burma.

Differs from the type specimens in having the leaves obtusely caudate acuminate.

Linociera macrophylla, *Wall.*, var. attenuata, *C. B. Clarke*, F.B.I., iii. p. 611. *Chionanthus macrophyllus*, Kurz, For. Fl. Burma, ii. p. 159.

Chiengmai, Doi Sootep, 480 m., *Kerr*, 1142; Phre, 156–240 m., *Luang Vanpruk*, 111.

Distr. Burma, Malaya, Australia.

Linociera pauciflora, *C. B. Clarke*, F.B.I., iii. p. 609. *Chionanthus palembanica*, Miq.—For. Fl. Burma, ii. p. 159.

Kedah, (ex Mat. Mal. Pen., 17, p. 267).

Distr. Burma, Malaya.

Olea dentata, *Wall.*—F.B.I., iii. p. 613; For. Fl. Burma, ii. p. 157.

Chiengmai, Doi Sootep, on edge of a clearing, 720 m., *Kerr*, 690.

Distr. Burma, Malay Peninsula.

Olea oblanceolata, *Craib*, sp. n., affinis *O. roseae*, Craib, sed foliis oblanceolatis serratis vel denticulato-serratis differt.

Arbuscula ad 6 m. alta (ex *Kerr*); ramuli primo parce pubescentes, mox glabri, cortice cinereo-brunneo obtecti, ad 4 mm. diametro.

Folia plerumque oblanceolata, apice acuminata, acutiuscula, basi cuneata, 8–14·5 cm. longa, 2–4·5 cm. lata, chartacea, supra primo parce pubescentia, mox glabra, subtus plus minusve persistenter molliter pubescentia, margine nisi ima basi acumineque serrata vel denticulato-serrata, nervis lateralibus utrinque 8–9 intra marginem arcuatis supra subobscuris mox cum costa leviter impressis subtus cum costa prominentibus, nervis transversis subobscuris ; petioli 3–8 mm. longi, primo pubescentes, mox glabri, supra canaliculati. *Paniculae* axillares, ad 9 cm. longae et 5 cm. latae, rhachi ramulisque parce pubescentibus ; pedicelli ad 2 mm. longi. *Calyx* vix 1 mm. altus, ad medium lobatus, lobis subaequalibus ovato-lanceolatis subacutis. *Corolla* 3 mm. longa, basi 0·75 mm., superne 2 mm. diametro, lobis brevibus incrassatis cucullatis. *Antherae* 1·5 mm. longae. *Ovarii* rudimentum deficiens. *Flores* ♀ haud visi.

Chiengmai, Doi Sootep, in evergreen jungle, 660 m., *Kerr*, 1717.

Olea rosea, *Craib*, sp. n., ab affini *O. dioica*, Roxb., ramulis, foliis et inflorescentia haud glabris facile distinguenda.

Arbuscula dioica, ad 4 m. alta ; ramuli primo dense molliter puberuli, straminei. *Folia* lanceolata vel oblongo-lanceolata, apice acuminata vel caudato-acuminata, basi cuneata, 4–13·5 cm. longa, 1·6–4·2 cm. lata, rigide chartacea, margine integro, supra plus minusve glabrescentia, subtus, costa nervisque densius, molliter puberula, nervis lateralibus utrinque 6–8 intra marginem arcuatis supra impressis subtus prominentibus, nervis transversis vix conspicuis ; petioli usque ad 7 mm. longi, ut in ramulis puberuli. *Flores* sicco rosei, in paniculas terminales geminas vel axillares solitarias dispositi. *Fl.* ♀. *Calyx* parvus, fere ad medium lobatus, extus parce puberulus. *Corollae* tubus circiter 3·5 mm. longus, dentes breves, cucullati. *Stamina* (an omnino sterilia ?) duo, corollae tubo adnata. *Ovarium* oblongum, glabrum, stylo brevi. *Fl.* ♂. *Calyx* et *corolla* maritae sed minores. *Ovarii* rudimentum deficiens.

Chiengmai, Doi Sootep, 900–1000 m., *Hosseus*, 515a (♀) (Herb. Kew et Hossei !), *Kerr*, 1100 (♂), 1843 (♀).

Distr. Yunnan, Szemao, 1500 m., *Henry*, 11661e (♂).

Henry 11661b and 11661a (in part) from the same locality probably also belong.

Apocynaceae.

Allamanda cathartica, *Linn.*

Bangkok, *Zimmermann*, 49.

Distr. Native of Trop. America—cultivated in Tropics.

Leuconotis eugenifolius, *DC.*—F.B.I., iii. p. 628.

Kedah, *Cantley*, 230.

Distr. Malaya.

Willughbeia firma, *Blume*—F.B.I., iii. p. 624.

Kedah, Langkawi, (ex Mat. Mal. Pen., 19, p. 395).

Distr. Malaya.

Melodinus Henryi, *Craib*, sp. n., ab affini *M. khasiana*, Hook. f., foliis multo majoribus facile distinguenda.

Frutex scandens ; ramuli novelli olivacei, minute parcissime pilulosi ; rami cortice brunneo striato obtecti. *Folia* opposita vel rarissime subopposita, elliptica, oblonga vel oblanceolata, apice

acuminata, subacuta, basi cuneata, 6–16 cm. longa, 2·5–6 cm. lata, chartacea, utrinque glabra, margine integra, nervis lateralibus utrinque numerosis intra marginem arcuatis pagina utraque conspicuis ; petioli ad 8 mm. longi. *Cymae* in paniculas terminales trichotomas dispositae ; bracteae bracteolaeque parvae ; pedicelli breves. *Sepala* rotundata vel late elliptica, 2 mm. longa, ciliata. *Corollae* flavidae tubus 6 mm. longus, basi excepta intra, superne densius, villosus, apice squamis majusculis bifidis instructus, lobi 3·5 mm. longi. *Stamina* paulo infra medium inserta, filamentis brevibus. *Stylus* 3 mm. longus, cum ovario glaber.

Chiengmai, Doi Sootep, in evergreen jungle, 900 m., *Kerr*, 1159.

Distr. Yunnan, Szemao, 1200–1500 m., *Henry*, 11,944, 11,944a, 12,725. Burma, Amherst, 600 m., *Lace*, 4760.

Lace's plant differs from the others in its larger leaves which measure up to 22 cm. long and 8 cm. broad.

Rauwolfia peguana, *Hook. f.*, F.B.I., iii. p. 632 ? ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 85. *Tabernaemontana ophiorrhizoides*, Kurz, For. Fl. Burma, ii. p. 175 (ex *Brandis*).

Chiengmai, Doi Sootep, in evergreen jungle, 660 m., *Kerr*, 1136.

Distr. Burma.

Carissa Carandas, *Linn.*—F.B.I., iii. p. 630 ; For. Fl. Burma, ii. p. 169.

Meh Ping, Doi Noi, 300 m., *Kerr*, 2009.

Distr. India, Burma, Malaya.

Alyxia lucida, *Wall.*—F.B.I., iii. p. 635.

Kedah, Gunong Raya, (ex Mat. Mal. Pen., 19, p. 418).

Distr. Malaya.

Alyxia pumila, *Hook. f.*—F.B.I., iii. p. 635.

Kedah, Gunong Jerai, (ex Mat. Mal. Pen., 19, p. 420).

Alyxia siamensis, *Craib*, sp. n., ab *A. gracili*, Wall., inflorescentia vix glabra recedit.

Frutex vagans, inflorescentia excepta glaber, cortice lenticellato subnitido ramulorum atro ramorum stramineo. *Folia* opposita, elliptica, elliptico-oblanceolata vel oblonga, apice obtuse acuminata, basi cuneata, 5–15 cm. longa, 2–5 cm. lata, rigide chartacea, margine integro leviter recurvo, nervis lateralibus utrinque numerosis parallelis cum nervo intramarginali supra subprominulis subtus conspicuis ; petioli 0·5–1 cm. longi, supra canaliculati. *Cymae* in paniculas terminales 5–6 cm. longas dispositae ; pedicelli 1–3 mm. longi, albo-tomentelli, basin versus 2-bracteolati. *Calycis* segmenta ovato-lanceolata, acutiuscula, circiter 1 mm. longa, extra albo-tomentella. *Corollae* tubus 6 mm. longus, paullo ultra 1 mm. diametro, lobi oblique elliptici, acutiusculi, 2 mm. longi, 1·5 mm. lati, basi squamulis minutis instructi. *Antherae* parvae, filamentis brevibus suffultae.

Chiengmai, Doi Sootep, in evergreen jungle, 1260 m., *Kerr*, 783.

Hunteria corymbosa, *Roxb.*—F.B.I., iii. p. 637. *Gynopogon lanceolatum*, Kurz, For. Fl. Burma, ii. p. 177 (ex F.B.I., l.c.).

Kedah, Langkawi, *Curtis*, 237.

Distr. India, Burma, Malaya.

Cerbera Odollam, *Gaertn.*—F.B.I., iii. p. 638 ; For. Fl. Burma, ii. p. 171.
Bangkok, *Zimmermann*, 129 ; Chiengmai, Doi Sootep, 1050 m., *Hosseus*.
Distr. S.E. Asia, Australia.

Ervatamia coronaria, *Stapf*. *Tabernaemontana coronaria*, Willd. —F.B.I., iii. p. 646. *T. divaricata*, Bl.—For. Fl. Burma, ii. p. 174.
Chiengmai, Doi Sootep, 300 m., *Kerr*, 612 ; Bangkok, *Schomburgk*, 185, *Zimmermann*, 16.
Distr. India, Assam, China, Malaya, Trop. Africa.

Ervatamia peduncularis, *King et Gamble*. *Tabernaemontana peduncularis*, Wall.—F.B.I., iii. p. 647.
Kedah, Langkawi, (ex Mat. Mal. Pen., 19, p. 452).
Distr. Malay Peninsula.

Holarrhena antidysenterica, *Wall.*—F.B.I., iii. p. 644 ; For. Fl. Burma, ii. p. 182 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 85.
Chiengmai, Doi Sootep, 300–360 m., *Kerr*, 1129, 1399.
Distr. S. E. Asia—occasionally cultivated in Tropics.
Kerr's specimens belong to the form *pubescens* (*Wall.*, pro. sp.).

Holarrhena Curtisii, *King et Gamble*, Mat. Mal. Pen., 19, p. 446.
Trang, *Curtis*, 3392.
Distr. Cambodia.

Vallaris Heynei, *Spr.*—F.B.I., iii. p. 650. *V. dichotoma*, Wall.—For. Fl. Burma, ii. p. 181.
Chieng Dao, in scrub jungle, 450 m., *Kerr*, 1051 ; Chiengmai, 330 m., *Kerr*, 1703.
Distr. India, Burma, Assam.

Parsonia spiralis, *Wall.*—F.B.I., iii. p. 650 ; For. Fl. Burma, ii. p. 180.
Kedah, Langkawi, (ex Mat. Mal. Pen., 19, p. 457).
Distr. India, Burma, Assam, China, Malaya.

Pottsia cantonensis, *Hook. et Arn.*—F.B.I., iii. p. 652 ; For. Fl. Burma, ii. p. 190.
Kedah, (ex Mat. Mal. Pen., 19, p. 463).
Distr. Indo-China, China, Malaya.

Wrightia dubia, *Spr.* *Strophanthus Jackianus*, Wall.—F.B.I., iii. p. 655.
Trang, (ex Mat. Mal. Pen., 19, p. 466).

Var. **membranifolia**, *King et Gamble*, Mat. Mal. Pen., 19, p. 466.
Tongkah, *Curtis*, 2915.
Distr. Malay Peninsula (*type*).

Wrightia javanica, *DC.*
Tongkah, *Curtis*, 3054.
Distr. Java.

Wrightia laevis, *Hook. f.*—F.B.I., iii. p. 654.
Poongah, *Curtis*, 2943.
Distr. Malaya.

Wrightia religiosa, *Benth.*—F.B.I., iii. p. 653, *in nota*.
Bangkok, *Schomburgk*, 132, 171, *Murton*, 6, *Zimmermann*, 24, 115. Siam, *Binnendyck*, *Christie*.

According to Schomburgk this plant is often cultivated in gardens in and around Bangkok on account of its odoriferous flowers. It is also cultivated at Singapore (*Maingay !* *Schomburgk !*).

Strophanthus Wallichii, *DC.*—F.B.I., iii. p. 655. *S. caudatus*, Kurz, For. Fl. Burma, ii. p. 193.

Tongkah, *Curtis*, 2931.

Distr. India, Burma, Assam.

Aganosma marginata, *Don*—F.B.I., iii. p. 663 ; For. Fl. Burma, ii. p. 186 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 86.

Chiengmai, in mixed jungle at foot of Doi Sootep, 300 m., *Kerr*, 585 ; Siam, *Murton*, 136.

Distr. S. E. Asia.

Ichnocarpus frutescens, *R. Br.*—F.B.I., iii. p. 669 ; For. Fl. Burma, ii. p. 185 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 86.

Chiengmai, in scrub jungle, 300 m., *Kerr*, 1459.

Distr. S.E. Asia, Australia.

I have not seen *Schomburgk*, 272 enumerated by Williams, Bull. Herb. Boiss., v. (1905) p. 949 as *Quirivelia bantamensis*, Williams, and in the MSS. lists in Herb. Kew as *Ichnocarpus frutescens*.

Anodendron paniculatum, *DC.*—F.B.I., iii. p. 668 ; For. Fl. Burma, ii. p. 188.

Tongkah, Puket, *Curtis*, 2933.

Distr. S.E. Asia, Australia.

Trachelospermum siamense, *Craib*, sp. n., a *T. jasminoidi*, Lem., foliis majoribus, alabastris apice longius attenuatis, corollae tubo longiore, a *T. fragrante*, Hook. f., alabastris apice longius attenuatis, corollae lobis majoribus, antherarum apicibus exsertis, a *T. gracilipide*, Hook. f., calycis segmentis multo majoribus recedit.

Suffrutex scandens ; ramuli teretes, primo parcissime puberuli mox glabri, vel densissime puberuli pilis longius persistentibus, cortice rubro-brunneo obtecti. *Folia* oblongo-lanceolata vel oblongo-oblanceolata, apice obtusa, brevissime mucronata, basi cuneata, 4·5–13·5 cm. longa, 1·5–4·3 cm. lata, subcoriacea, utrinque glabra, supra nitida, viridia, subtus pallidiora, margine integra, nervis lateralibus utrinque circiter 10 intra marginem arcuatis costa supra impressa nervis lateralibus supra subconspicuis subtus cum nervis transversis prominulis ; petioli vix 1 cm. attingentes, supra canaliculati, plus minusve appresse pubescentes, subtus convexi, fere glabri. *Cymae* laxe paniculatae, pedunculo communi 3–6·5 cm. longo ; pedicelli 0·6–1 cm. longi, glabri, basi bractea parva lanceolata ciliolata instructi. *Sepala* ovato-lanceolata, obtusiuscula, basi gibbosa, 3·5 mm. longa, 2 mm. lata, ciliolata, intus basi squamilis instructa. *Corollae* albae tubus 1·4 cm. longus, 1·5 mm. diametro, apice post antheram quemque lineis duobus pilosis instructus, lobi 1 cm. longi, 8 mm. lati. *Antherae* paulo exsertae, sessiles, basi cornutae, apice in appendiculam membranaceam parum inflexam productae. *Discus* 5-lobatus [vel interdum e glandis secretis constitutus ?], ovario vix aequialtus.

Chiengmai, Doi Sootep, 600 m., *Kerr*, 1133.

Rhynchodia Wallichii, *Benth.*—F.B.I., iii. p. 667. *Cercocoma Wallichii*, Kurz, For. Fl. Burma, ii. p. 187.

Kedah, Langkawi, *Curtis*, 3203.

Distr. India, Indo-China, Malay Peninsula,

Amalocalyx microlobus, *Pierre?*
Chiengmai, in mixed jungle at foot of Doi Sootep, 300 m., *Kerr*, 716, 716a.
Distr. Laos.
Kerr's specimens differ from typical *A. microlobus* in the peduncle being rather thicker, the flowers evidently slightly larger, calyx lobes and corolla tube broader, and the fruit longer and narrower. Unfortunately the material on which Pierre founded his species is rather poor and in the absence of better material I hesitate to separate the Chiengmai plant from it.

Beaumontia sp. n.?
Kow Hoo Wen, *Murton*, 113.
Probably represents a new species but the material is insufficient for diagnosis.

ASCLEPIADACEAE.

Zygostelma Benthami, *Baill. Hemidesmus indicus*, Williams, Bull. Herb. Boiss., v. (1905) p. 950, *non* R. Br.
Anhin, Schomburgh, 284.

Gymnanthera insularum, *King et Gamble*, Mat. Mal. Pen., 19, p. 514.
Kedah, Langkawi, (ex Mat. Mal. Pen., l.c.).

Finlaysonia obovata, *Wall.*—F.B.I., iv. p. 7; For. Fl. Burma, ii. p. 197.
Kasoom, (ex Mat. Mal. Pen., 19, p. 513).
Distr. India, Burma, Malay Peninsula.

Atherandra acutifolia, *Dene.*—F.B.I., iv., p. 9.
Kedah, Langkawi, (ex Mat. Mal. Pen., 19, p. 516).
Distr. Malaya.

Streptocaulon Griffithii, *Hook. f.*, F.B.I., iv. p. 10. *S. tomentosum*, Williams, Bull. Herb. Boiss., v. (1905) p. 949, *non.* Wight.
Chiengmai, in mixed and evergreen jungles on Doi Sootep, 330 m., *Kerr*, 1244; Anhin, *Schomburgk*, 252.
Distr. Tenasserim, Mergui, Tonkin, S. China.

Streptocaulon Wallichii, *Wight*—F.B.I., iv. p. 9.
Kedah, *Bell* in Hb. Cantley, 229.
Distr. Malay Peninsula.

Myriopteron extensum, *K. Sch. M. paniculatum*, Griff.—F.B.I., iv. p. 11. *Streptocaulon extensum*, Wight—For. Fl. Burma, ii. p. 198.
Chiengmai, in mixed jungle, foot of Doi Sootep, 300 m., *Kerr*, 770.
Distr. Bengal, Assam, Burma, Yunnan.

Gongylosperma Curtisii, *King et Gamble*, Mat. Mal. Pen., 19, p. 510.
Poongah, (ex Mat. Mal. Pen., l.c.).

Secamone micrantha, *Dene.*
Kedah, Langkawi, *Curtis*, 2800.
Distr. Malaya.

Toxocarpus Curtisii, *King et Gamble*, Mat. Mal. Pen., 19, p. 521.
Kedah, Langkawi, (ex Mat. Mal. Pen., l.c.).
Distr. Perak (ex Mat. Mal. Pen., l.c.).

Toxocarpus Hosseusii, *Schlechter*, Engl. Bot. Jahrb., xl. Beibl. 92, p. 1.
Paknampo, *Hosseus*, 13 ; ? Chiengmai, in scrub jungle, 300 m., *Kerr*, 1668.
The specimens collected by Kerr are in fruit only and are referred doubtfully to this species.

Toxocarpus langkawiensis, *King et Gamble*, Mat. Mal. Pen., 19, p. 523.
Kedah, Langkawi, (ex Mat. Mal. Pen., l.c.).

Oxystelma esculentum, *Br.*—F.B.I., iv. p. 17.
Chiengmai, 300 m., *Kerr*, 1443.
Distr. S.E. Asia.
Lao name, Kio Kou Mai.

Calotropis gigantea, *Br.*—F.B.I., iv. p. 17 ; For. Fl. Burma, ii. p. 200.
Bangkok, *Zimmermann*, 152.
Distr. India, Burma, China, Malaya.

Asclepias curassavica, *Linn.*—F.B.I., iv. p. 18 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 87.
Chiengmai, Doi Sootep, 1020 m., *Kerr*, 874.
Native of Trop. America.

Raphistemma pulchellum, *Wall.*—F.B.I., iv. p. 19.
Chiengmai, in scrub jungle, 300 m., *Kerr*, 1469.
Distr. Sikkim, Yunnan, Burma, Assam.

Gymnema acuminatum, *Wall.*—F.B.I., iv. p. 30; For. Fl. Burma, ii. p. 202 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 87.
Kedah, Langkawi, *Curtis*, 2811.
Distr. Indo-China, Malaya.

Gymnema Griffithii, *Craib*, sp. n., a *G. molli*, Wall., caulibus pilis longiusculis patulis instructis, corona diversa recedit.

Caules repentes vel volubiles, albo-tomentelli praetereaque pilis longiusculis patentibus densius instructi. *Folia* ovato-elliptica, ovato-lanceolata vel rarissime elliptica, apice acuminata, basi rotundata vel obtusa, 3–5 cm. longa, 1·2–3·6 cm. lata, rigide chartacea, supra parce appresse albo-pilulosa, subtus molliter pubescentia, margine integra, ciliata, nervis lateralibus utrinque 4–5 intra marginem arcuatis supra conspicuis subtus cum nervis transversis prominulis ; petioli usque ad 2 cm. longi, indumento ut in caulibus. *Cymae* densae, subsessiles vel pedunculis usque ad 5 mm. longis suffultae. *Sepala* 5, subrotundata, 3 mm. diametro, ciliata, extra puberula. *Corollae* lilacineae tubus 3 mm. longus, lobi oblongi, apice rotundati, irregulariter leviter emarginati, 2 mm. longi ; corona e squamis 5 apice emarginatis 0·5 mm. altis carnosis lobis alternis et anulo denso pilorum junctis.

Chiengmai, in open deciduous jungle on Doi Sootep, 450 m., *Kerr*, 635.

Distr. Upper Burma, Tsegain Hills, *Griffith*, 3806 (Kew Distr.) ; Southern Shan States, Keng Tung, *MacGregor*, 556 (v.s. in herb. Calc.).

Tylophora asthmatica, *Wight et Arn.*—F.B.I., iv. p. 44 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 87.

Bangkok, *Schomburgk*, 173.

Distr. India, Burma, Assam, Malay Archipelago.

Tylophora fasciculata, *Ham.*—F.B.I., iv. p. 40.

Chiengmai, in deciduous jungle on Doi Sootep, 390 m., *Kerr*, 644.

Distr. S. Nepal, Khasia, Upper Burma, Concan.

Tylophora Kerrii, *Craib*, sp. n., a *T. macrostachide*, Hook. f., cymis pedunculatis haud congestis, a *T. longifolia*, Wight, foliis angustioribus, floribus majoribus recedit.

Caules volubiles, monocarpici, ad 1·6 m. longi, bifacialiter, infra nodos ipsos praecipue breviter puberuli, striati. *Folia* lineari-lanceolata, apice acuta, basi obtusa, 4·5–13 cm. longa, 0·3–1 cm. lata, chartacea, fere glabra, costa supra impressa subtus prominente, nervis lateralibus utrinque circiter 8 intra marginem arcuatis supra obscuris subtus prominulis nisi iis foliorum apices versus evanidis, nervis transversis obscuris. *Cymae* axillares, pedunculo communi ad 1·5 cm. longo suffultae, glabrae ; pedicelli usque ad 1 cm. longi, bracteis minutis. *Sepala* lanceolata, acuta, vix 2 mm. longa, ciliata. *Corollae* lobi oblongi, obtusi, circiter 6 mm. longi, 2·5 mm. lati, glabri. *Corona* e tuberculis 5 apice columnae staminali brevi adnatis basi gibbosis inter se liberis constituta.

Chiengmai, in open jungle on Doi Sootep, 1350 m., *Kerr*, 704.

Tylophora purpurea, *Wall.*—F.B.I., iv. p. 41.

Chiengmai, in scrub jungle on Doi Sootep, 330 m., *Kerr*, 1446.

Distr. Burma, bank of Irrawaddy.

Tylophora sootepensis, *Craib*, sp. n., ab affini *T. Augustiniana*, Craib, inflorescentia plerumque vix tam furcata, floribus majoribus, sepalis valde acutis recedit.

Herba volubilis, ramis striatis apices versus internodiorum bifacialiter parce piloso-pubescentibus. *Folia* ovato-lanceolata vel lanceolata, apice vix acuminata, basi cordata nisi juniora interdum rotundata vel obtuse cuneata, usque ad 17·5 cm. longa et 8 cm. lata, membranacea, costa supra parce pilulosa excepta glabra, nervis lateralibus utrinque circiter 7 intra marginem arcuatis supra conspicuis subtus prominulis ; petioli usque ad 2·5 cm. longi, supra valde canaliculati, apice supra glandulis instructi. *Inflorescentia* e cymis plerumque sessilibus sed interdum pedunculatis unilateraliter dispositis, usque ad 30 cm. longa ; pedicelli graciles, usque ad 1·2 cm. longi. *Sepala* ovato-lanceolata, acuta, 1·25 mm. longa, 0·75 mm. lata, glabra. *Corollae* albae tubus brevis, lobi ovato-elliptici, obtusi, oblique leviter emarginati, 4·5 mm. longi, 3 mm. lati, glabri. *Coronae* lobi columnae staminali adnati, basi gibbosi.

Chiengmai, Doi Sootep, in evergreen jungle, 900 m., *Kerr*, 1310.

Owing to the flowers having been pressed quite flat it has been found impossible to give minute details of their structure, *e.g.*, in the case of the shape of the corona lobes.

There is no doubt but what this plant is closely allied to *Neohenrya Augustiniana*, Hemsl., but in the writer's opinion this plant is a *Tylophora* and should be named *Tylophora Augustiniana*, Craib.

Marsdenia tinctoria, *Br.*—F.B.I., iv. p. 34; For. Fl. Burma, ii. p. 201.
Kedah, (ex Mat. Mal. Pen., 19, p. 546).
Distr. India, Burma, China, Malaya.

Marsdenia volubilis, *T. Cooke.* *Dregea volubilis*, Benth. ex Hook. f., F.B.I., iv. p. 46.
Siamese States, Pulau Badak, (ex Mat. Mal. Pen., 19, p. 548).
Distr. India, Java.

Telosma minor, *Craib*, comb. nov. *Pergularia minor*, Andr.—F.B.I., iv. p. 38. *P. odoratissima*, Kurz, For. Fl. Burma, ii. p. 203, *non* Sm.
Bangkok, *Zimmermann*, 151.
Distr. India, Indo-China, China.

Telosma pallida, *Craib*, comb. nov. *Pergularia pallida*, Wight et Arn.—F.B.I., iv. p. 38; For. Fl. Burma, ii. p. 203; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 88.
Chiengmai, in scrub jungle, 300 m., *Kerr*, 1224.
Distr. India, Indo-China.

Heterostemma siamicum, *Craib*, sp. n., ab *H. alato*, Wight, caulibus haud bifacialiter pubescentibus, foliis maturis basi alte cordatis, nervis subtus haud alatis, coronae lobis pro corollae magnitudine majoribus distinguenda.
Caules primo pilis ferrugineis patulis instructi, mox fere glabri. *Folia* oblonga, ovato-oblonga vel ovato-rotundata, basi juniora cuneata, matura alte cordata, apice cuspidata, acuta, 4–10 cm. longa, 1·7–7·5 cm. lata, chartacea, utrinque pilulosa, margine integra, e basi 5-nervia, nervis secondariis (e costa ortis) utrinque 2–3 intra marginem arcuatis omnibus supra conspicuis subtus prominulis nervis transversis supra subconspicuis subtus vix prominulis; petioli 2–8 cm. longi, supra valde canaliculati, apice glandulis paucis fasciculatis instructi. *Umbellae* axillares, pluriflorae, pedunculis 1·5–2 cm. longis suffultae; pedicelli 1·5–2 cm. longi. *Sepala* late lanceolata, obtusa, circiter 1 mm. longa, extra parce appresse pilulosa, ciliata. *Corollae* luteae lobi ovato-lanceolati vel oblongo-lanceolati, apice breviter bifidi, 3·5 mm. longi, 2·5 mm. lati, extra pilulosi, intra pulverulento-tomentelli. *Coronae* lobi petaloidei, corollae appressi, lanceolati, acuti, basi incrassati et appendiculati, 2 mm. longi.
Chiengmai, scandent on village hedgerow, 300 m., *Kerr*, 1324.

Hoya parasitica, *Wall.*—F.B.I., iv. p. 57.
Chiengmai, Doi Sootep, 330–660 m., *Kerr*, 1690.
Distr. India, Burma, Assam, Malay Peninsula.

Hoya Ridleyi, *King et Gamble*, Mat. Mal. Pen., 19, p. 575.
Kedah, Pulau Songsong (ex Mat. Mal. Pen., l.c.).
Distr. Malay Peninsula (ex Mat. Mal. Pen., l.c.).

Hoya Engleriana, *Hosseus*, Notizbl. Bot. Gart. Berl., No. 40, p. 315.
Described from a specimen in cultivation at Dahlem collected on Doi Sootep, 1580 m. by *Hosseus*.

Hoya Kerrii, *Craib*, sp. n., ab *H. obovata*, Dene., cui affinis, foliis apice bilobis floribus fere duplo minoribus recedit.
Caulis scandens, glaber. *Folia* opposita, obovata vel orbiculata, apice biloba lobis rotundatis, basi late cuneata vel subrotundata,

4–12 cm. longa, 5–9·5 cm. lata, crasso-carnosa, utrinque glabra, marginibus revoluta; petioli 5–15 mm. longi, 5 mm. crassi. *Umbellae* 4–5 cm. diametro; pedunculus communis 2–3 cm. longus, 3 mm. crassus, glaber; pedicelli graciles, 1·3–1·8 cm. longi, puberuli. *Sepala* ovato-oblonga, obtusissima, 2·5 mm. longa, puberula et ciliata. *Corolla* cum lobis revolutis 9 mm. diametro, extra glabra, intra papillato-puberula, albida, disco rubro-tincta; lobi deltoideo-ovati, acuti, 4–5 mm. longi, 4 mm. lati, revoluto-reflexi. *Coronae* lobi crasso-carnosi, 2·5 mm. longi, acuti, dorso canaliculati, supra concavo-excavati cum tuberculo parvo in cavitate, rubescentes.

Chiengmai, in eng jungle on Doi Sootep, 390 m., *Kerr*, 1810.

A living plant sent by Dr. Kerr to the Royal Botanic Gardens, Glasnevin, Dublin, which flowered there in August of the present year, differs from the wild specimens only in having a minute and scanty pubescence on the stem, peduncle and both sides of the leaf which may be due to change of climatic conditions.

Hoya siamica, *Craib*, sp. n., ab *H. longifolia*, Wall., foliis latioribus haud in petiolos attenuatis, corona majore suberecta recedit.

Folia lanceolata, oblongo-lanceolata vel ovato-lanceolata, apice acutiuscula, basi obtusa, 3·7–9·5 cm. longa, 1·5–2·2 cm. lata, utrinque glabra, margine leviter recurvo, sicco coriacea, nervis omnino obscuris; petioli 0·5–1·5 cm. longi, glabri. *Umbellae* 10–14-florae, pedunculo 1–5 cm. longo glabro suffultae; pedicelli 2 cm. longi, glabri. *Sepala* parva, ovato-lanceolata, acuta, primo densius puberula. *Corolla* usque ad 1·5 cm. diametro, extra glabra, intra loborum apicibus acutis exceptis et praesertim marginem versus puberula. *Coronae* lobi suberecti, supra concavi sed medio umbone instructi, 3–3·5 mm. longi.

Chiengmai, in evergreen jungle on Doi Sootep, 1500–1650 m., *Kerr*, 724.

Dischidia nummularia, *Br.*—F.B.I., iv. p. 49.

Chiengmai, in deciduous jungle on Doi Sootep, 300–750 m., *Kerr*, 553.

Distr. Burma, Chittagong, Malaya, Australia.

Dischidia Rafflesiana, *Wall.*—F.B.I., iv. p. 50.

Chiengmai, in deciduous jungle on Doi Sootep, 300–600 m., *Kerr*, 624.

Distr. Burma, Assam, Malaya, Australia.

Dischidia singularis, *Craib*, sp. n., a speciebus asiaticis foliorum forma facile distinguenda.

Planta epiphytica, corolla excepta glabra; caules graciles, sicco viridescentes vel brunnescentes, irregulariter striati. *Folia* linearia sed paulo supra medium expansa, vel lanceolata, apice plerumque acuta, basi in petiolum plus minusve distinctum attenuata, 2·5–6·5 cm. longa, 0·3–2 cm. lata, margine revoluto, nervis obscuris. *Umbellae* pluriflorae, plurumque ad apices ramulorum brevium crassorum gestae; pedicelli usque ad 1 mm. longi. *Sepala* parva, ovato-lanceolata, obtusa. *Corolla* urceolata, lobis exceptis glabra; tubus 2 mm. longus, lobi lanceolati, acuti, 1·5 mm. longi, suberecti, crassi, extra glabri, intra lobo utroque pilorum alborum linea densa tubi os

claudente et e basi paulo supra medium extensa instructo. *Coronae* lobi erecti, membranacei, subrotundati, distincte stipitati.

Chiengmai, on trees in open jungle on Doi Sootep, 900–1200 m., *Kerr*, 1294, 1294*a*.

Brachystelma Kerrii, *Craib*, sp. n., ab affini *B. eduli*, Coll. et Hemsl., caule elongato, internodiis elongatis facile distinguenda.

Herba perennis ; rhizoma tuberosum, sicco 2 cm. diametro ; caulis monocarpicus, simplex, erectus, gracilis, fere 5 dm. altus. *Folia* sparsa, angusta, acuta, 6–6·5 cm. longa, sessilia, glabra, costa sicco supra leviter impressa subtus prominula, nervis lateralibus omnino obscuris. *Inflorescentia* terminalis, pauciflora ; pedicelli 7 mm. longi, puberuli. *Calycis* lobi lanceolati, acuti, 1·5 mm. longi, glabri. *Corolla* atro-purpurea (ex *Kerr*) ; lobi late lanceolati, acutiusculi, marginibus recurvis, 5 mm. longi, 1·5 mm. lati, supra parce pilosi.

Chiengmai, in deciduous jungle on Doi Sootep, 360 m., *Kerr*, 1273.

Up to the present there has been received at Kew only one specimen with one expanded flower, which unfortunately had been pressed too flat to allow a complete description being given.

Ceropegia sootepensis, *Craib*, sp. n., ab affini *C. angustifolia*, Wight, foliis longioribus angustioribus vix petiolatis, umbellis subsessilibus recedit.

Herba scandens ; caules graciles, straminei, parcissime puberuli. *Folia* subsessilia, linearia vel anguste lineari-lanceolata, apice acuta, basi attenuata, 5–18 cm. longa, 1–9 mm. lata, chartacea, supra puberula vel fere scaberula, subtus fere glabra, margine integro revoluto. *Umbellae* axillares, pauciflorae, subsessiles ; bracteae parvae ; pedicelli usque ad 9 mm. longi, fere glabri. *Sepala* lanceolata, acuta, circiter 5 mm. longa. *Corolla* ad 5 cm. longa, basi ellipsoidea vel anguste ellipsoidea, medio constricta, lobis 2 cm. longis. *Coronae* exterioris lobi angusti, usque ad 1·5 mm. longi, interioris lobi eos exterioris duplo superantes.

Chiengmai, in open deciduous jungle on Doi Sootep, 450 m., *Kerr*, 695.

Loganiaceae.

Mitreola oldenlandioides, *Wall.*—F.B.I., iv. p. 79.

Chiengmai, in mixed jungle on Doi Sootep, 330 m., *Kerr*, 1462.

Distr. India, Burma, Malaya, Australia.

Buddleia asiatica, *Lour.*—F.B.I., iv. p. 82 ; For. Fl. Burma, ii. p. 250 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 90.

Chiengmai, Doi Sootep, 300–800 m., *Kerr*, 546, *Hosseus*, 277, 453 ; Ban Salu, 300 m., *Hosseus*, 382.

Distr. India, S. China, Indo-China, Malaya.

Buddleia macrostachya, *Benth.* ?—F.B.I., iv. p. 81.

Doi Chieng Dao, 2180 m., *Hosseus*, 400.

Distr. Himalayas, Manipur, Khasia.

Fagraea Curtisii, *King et Gamble*, Mat. Mal. Pen., 19 p. 605.

Kedah, Langkawi, *Curtis*, 1676.

Fagraea obovata, *Wall.*—F.B.I., iv. p. 83 ; For. Fl. Burma, ii. p. 205.

Kedah, (ex Mat. Mal. Pen., 19 p. 606).

Distr. India, Khasia, Malaya.

Strychnos nux-vomica, *Linn.*—F.B.I., iv. p. 90; For. Fl. Burma, ii. p. 166; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 90.

Chiengmai, in deciduous jungle on lower slopes of Doi Sootep, 300–600 m., *Kerr*, 603; Phre, 180 m., *Luang Vanpruk*, 197.

Distr. India, Burma.

Lao name, Tung Ton (ex *Luang Vanpruk*).

Strychnos Vanprukii, *Craib*, sp. n., a *S. paniculata*, Champ., foliis multo majoribus, inflorescentia axillari brevi densa recedit.

Ramuli obscure tetragoni, circiter 2·5 mm. diametro, glabri, virides. *Folia* ovato-oblonga vel oblongo-elliptica, apice acuminata, basi late cuneata vel subrotundata, 13–17 cm. longa, 6–7 cm. lata, subcoriacea, laete viridia, utrinque glabra, tripli-nervata nervis ad apicem euntibus supra conspicuis subtus prominentibus et praeterea nervis duobus dilutis intramarginalibus e basi fere ad apicem instructa, nervis e costa ortis numerosis subparallelis pagina utraque conspicuis; petioli vix 1 cm. longi, supra canaliculati, glabri. *Cymae* axillares, densae, breves, sessiles vel breviter pedunculatae; pedicelli fere 2 mm. longi, bracteolis duobus calycis segmentis similibus instructi. *Calycis* circiter 1 mm. alti segmenta ovato-rotundata, brevissime obtuse acuminata, ciliolata. *Corollae* tubus 1·5 mm. longus, lobi oblongo-lanceolati, acutiusculi, circiter 2·5 mm. longi, 1·5 mm. lati, per anthesin recurvi, extra glabri intra inferne pilosi. *Stamina* exserta, filamentis 1·25 mm. longis glabris, antheris 0·75 mm. longis glabris *Ovarium* 1 mm. altum, cum stylo vix 2 mm. longo glabrum.

Me Yuak Phre, 240 m., *Luang Vanpruk*, 234.

Gentianaceae.

Exacum pteranthum, *Wall.*—F.B.I., iv. p. 99.

Chiengmai, in mixed jungle on Doi Sootep, 390 m., *Kerr*, 1482.

Distr. Moulmein, Tavoy.

Exacum sutapense, *Hosseus.*

Chiengmai, Doi Sootep, 1650 m., *Kerr*, 1499, *Hosseus*, 194.

Exacum tetragonum, *Roxb.*—F.B.I., iv. p. 95.

Nakontai, 150 m., *Hosseus*, 724.

Distr. Himalayas, Khasia, China, Philippines.

Differs from typical *E. tetragonum* in its slightly broader leaves.

Microrphium pubescens, *C. B. Clarke*, Mat. Mal. Pen., 16 p. 88.

Kedah, (ex Mat. Mal. Pen., l.c.).

Canscora decussata, *Roem. et Sch.*—F.B.I., iv. p. 104.

Chiengmai, Doi Sootep, 420 m., *Kerr*, 1521.

Distr. India, Burma, Trop. Africa, Mascerene Islands.

Canscora diffusa, *Br.*—F.B.I., iv. p. 103; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 90.

Near Lakon, in deciduous jungle, 300 m., *Kerr*, 977; Banks of Meh Ping, 400 m., *Hosseus*, 387.

Dist. India, China, Indo-China, Malaya, Australia, Trop. Africa.

Canscora pentanthera, *C. B. Clarke*, Mat. Mal. Pen., 16 p. 89.

Kedah, Langkawi, (ex Mat. Mal. Pen., l.c.).

Distr. Malay Peninsula, (Selangor).

Swertia angustifolia, *Ham.*—F.B.I., iv. p. 125.
Chiengmai, Doi Sootep, in open grassy spots, 1500 m., *Kerr*, 885.
Distr. Himalayas.

Swertia pulchella, *Ham.*—F.B.I., iv. p. 125.
Chiengmai, in deciduous jungle on Doi Sootep, 540 m., *Kerr*, 1494.
Distr. Himalayas, Khasia, China.

Limnanthemum indicum, *Thw.*—F.B.I., iv. p. 132; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 91.
Chiengmai, 300 m., *Kerr*, 1634.
Distr. S.E. Asia, Australia, Mascerene Is.

Hydrophyllaceae.

Hydrolea zeylanica, *Vahl*—F.B.I., iv. p. 133.
Bank of Meh Ping, between Raheng and Paknampo, 105 m., *Kerr*, 502; Ban Meh Kah, 195 m., *Kerr*, 912; Wang Djao, *Hosseus*, 125.
Distr. Tropics.

Boraginaceae.

Ehretia siamensis, *T. et B.*, Cat. Hort. Bog., 139, *nomen*.
Siam, *Teysmann*, anno 1868.
The material in Herb. Kew is too incomplete for diagnosis.

Ehretia, sp. facie *E. hottentoticae*, Burch. similis.
Bangkok Palace Gardens, cultivated, *Murton*, 5.

Cordia Griffithii, *C. B. Clarke*, F.B.I., iv. p. 139.
Kedah, (ex Mat. Mal. Pen., 18 p. 280).
Distr. Malay Peninsula.

Cordia subcordata, *Lamk.*—F.B.I., iv. p. 140; For. Fl. Burma, ii. p. 209.
Kedah, (ex Mat. Mal. Pen., 18 p. 279).
Distr. India, Malaya, Australia—often cultivated.

Rhabdia lycioides, *Mart.*—F.B.I., iv. p. 145. *R. viminea*, Dalz. —For. Fl. Burma, ii. p. 211.
Banks of Meh Ping, Hue Sam Ngao, 140 m., *Hosseus*, 542.
Distr. Tropical Asia, Africa, America.

Tournefortia ovata, *Wall.*—F.B.I., iv. p. 147.
Between Lakon and Phre, near Ban Meh Tah, 300 m., *Kerr*, 997.
Distr. Burma, S. China.

Heliotropium indicum, *Linn.*—F.B.I., iv. p. 152.
Chiengmai, Doi Sootep, 300 m., *Hosseus*.
Distr. Tropical Asia, Africa, America.

Cynoglossum micranthum, *Desf.*—F.B.I., iv. p. 156.
Chiengmai, in deciduous jungle on Doi Sootep, 720 m., *Kerr*, 698.
Distr. S.E. Asia.

Convolvulaceae.

Argyreia Kerrii, *Craib*, sp. n., ab *A. Thomsoni*, Craib, pedunculis brevioribus, sepalis vix hirsutis recedit.
Caules scandentes vel repentes, juventute densius albo-pubescentes. *Folia* ovata vel late ovata, apice breviter acuminata, acutissima,

basi cordata, 4–19 cm. longa, 3·5–14 cm. lata, chartacea, supra pilis rigidis basi tuberculatis parce instructa, subtus subvillosa, nervis lateralibus utrinque circiter 12 intra marginem arcuatis sicco supra subprominulis subtus conspicuis ; petioli ad 5 cm. longi, indumento ut in caule. *Inflorescentia* axillaris, pluriflora, pedunculo communi vix 2 cm. longo suffulta ; pedicelli ad 7 mm. longi ; bracteae ovato-lanceolatae, acuminatae, ad 2 cm. longae, 0·7 cm. latae, extra pubescentes, intra parcissime pubescentes. *Sepala* subaequalia, oblongo-oblanceolata, obtusa, ad 1 cm. longa, 0·6 cm. lata, extra medio appresse pubescentia. *Corolla* atro-purpurea (ex *Kerr*), anguste tubuloso-campanulata, 5 cm. longa, 1·7 cm. diametro, extra glabra. *Filamenta* basi parum dilatata, breviter pilosa.

Chiengmai, in deciduous jungle on Doi Sootep, 300 m., *Kerr*, 761.

Argyreia obtusifolia, *Lour.* *A. obtecta*, C. B. Clarke, F.B.I., iv. p. 186 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 93.

Chiengmai, Doi Sootep, 600–1500 m., *Kerr*, 1384, 1384a.

Distr. Indo-China, Hong-Kong, Malay Peninsula.

Argyreia Roxburghii, *Choisy*, var. **siamica**, *Craib*, var. nov., habitu *A. Roxburghii*, var. *amplae*, C. B. Clarke, similis sed sepalis exterioribus latioribus apice rotundatis distincta.

Chiengmai, in scrub jungle, 300 m., *Kerr*, 1395.

Argyreia Wallichii, *Choisy*—F.B.I., iv. p. 187.

Chiengmai, in mixed jungle on Doi Sootep, 420 m., *Kerr*, 1481.

Distr. Sikkim, Assam, Yunnan.

Argyreia sp. near *A. confusa*, Prain. *A. venusta*, Hosseus, Bot. Centralbl., Beihefte, xxvii. 2, p. 501, *non* Choisy.

Wang Djao, 100–150 m., *Hosseus*, 116.

Ipomoea aquatica, *Forsk.*, var. **reptans**, *Williams*, Bull. Herb. Boiss., v. (1905) p. 438 ; Hosseus, Bot. Centralbl., Beihefte, xxvii. 2, p. 502.

Chiengmai, 300 m., *Kerr*, 893.

Distr. Tropics.

Ipomoea caespitosa, *O. Kze.* *I. linifolia*, Bl.—F.B.I., iv. p. 205. *Merremia caespitosa*, Hallier f.—Hosseus, Bot. Centralbl., Beihefte, xxvii. 2, p. 502.

Near Raheng, 120 m., *Kerr*, 905 ; Wang Djao, *Hosseus*, 137.

Distr. S.E. Asia to Australia.

Ipomoea Henryi, *Craib*, sp. n., ab *I. siamensi*, Craib, foliis lanceolatis recedit.

Caules scandentes, lignosi, parce appresse setulosi. *Folia* late lanceolata, apice acutissima, basi rotundata, 14–20 cm. longa, 6–7 cm. lata, chartacea, supra costa nervisque setulosis exceptis glabra, subtus parce setulosa, nervis lateralibus utrinque 8–9 obliquis supra conspicuis subtus prominulis ; petioli 3–5 cm. longi, parce setulosi. *Inflorescentia* axillaris, pedunculo communi 13–14·5 cm. longo suffulta ; pedicelli 6–9 mm. longi, ut in pedunculo parce appresse hirsuti ; bracteae bracteolaeque deciduae. *Sepala* duo exteriora ovato-triangularia, 4 mm. longa, 4 mm. lata, apice obtusa, extra parce appresse hirsuta, interiora paulo majora parciusque hirsuta. *Corollae* tubuloso-infundibuliformis tubi pars basi aequalis

4 mm. longa, 3 mm. diametro, glabra, pars expansa 5 cm. longa, 1·7 cm. diametro, appresse hirsuta. *Filamenta* 1·3 cm. longa, basi parum dilatata et pilosa.

Chiengmai, Doi Sootep, 660 m., *Kerr*, 1489.

Distr. Yunnan, *Henry*, 13,387.

Ipomoea Nil, *Roth. I. hederacea*, Jacq.—F.B.I., iv. p. 199, p.p.

Chiengmai, 300 m., *Kerr*, 1486.

Distr. Tropics and subtropics.

Ipomoea obscura, *Ker*—F.B.I., iv. p. 207 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 96.

Chiengmai, 300 m., *Kerr*, 1346—" a garden weed."

Distr. Trop. Asia, Africa, Australia.

Ipomoea paniculata, *Br. I. digitata*, Linn.—F.B.I., iv. p. 202.

Bangkok, *Schomburgk*, 322 ; Chiengmai, in scrub jungle, 330 m., *Kerr*, 1336.

Distr. Tropics.

Ipomoea petaloidea, *Choisy*—F.B.I., iv. p. 212 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 96. *I. xanthantha*, Kurz, For. Fl. Burma, ii. p. 219.

Muang Prow, Meh Ngat, in deciduous jungle, 420 m., *Kerr*, 1036.

Distr. Oudh, Burma, Malaya.

Lao name, Kreua Kou Kom.

Ipomoea polyantha, *Miq.*, var. affinis, *C. B. Clarke*, F.B.I., iv. p. 206. *Merremia gemella*, Hosseus, Bot. Centralbl., Beihefte, xxvii. 2, p. 504. *M. umbellata*, Hosseus, l.c. p. 505.

Bangkok, *Zimmermann*, 83.

Distr. Bengal, Assam, Burma.

Ipomoea sagittaefolia, *Burm. I. sepiaria*, Koen. ex Roxb.—F.B.I., iv. p. 209.

Kedah, (ex Mat. Mal. Pen., 18 p. 317).

Distr. S.E. Asia.

Ipomoea siamensis, *Craib*, sp. n., floribus *I. popahensi*, Coll. et Hemsl., similis sed foliis ovatis vel ovato-rotundatis basi alte cordatis valde distincta.

Caules e radice perenni annui, procumbentes vel scandentes, pilis rigidiusculis patentibus vel plerumque reflexis instructi. *Folia* ovata vel ovato-rotundata, apice acuminata, acuta, basi alte cordata, 2·7–9·5 cm. longa, 2–8 cm. lata, tenuiter chartacea, ciliata, utrinque pauperrime setulosa, nervis lateralibus utrinque 4–7 pagina utraque conspicuis ; petioli 2–6·5 cm. longi, indumento ut in caule. *Flores* axillares, solitarii, pedicellis circa 2 cm. longis suffulti. *Sepala* subaequalia, lanceolata, acuta, circiter 1 cm. longa, 2 mm. lata, extra hirsuta. *Corolla* anguste tubuloso-campanulata, purpurea et alba (ex *Kerr*), ad 6 cm. longa, 1·5 cm. diametro, extra longe parceque setosa.

Chiengmai, Doi Sootep, in mixed jungle 330–420 m., *Kerr*, 1401.

Ipomoea umbellata, *Linn.*, var. orientalis, *Hallier f.*—Williams, Bull. Herb. Boiss., v. (1905) p. 438, et Hosseus, l.c., p. 504, sub *Merremia*. *I. cymosa*, R. & S.—F.B.I., iv. p. 211.

Near Doi Saket, Meh Kung, 420 m., *Kerr*, 1022 ; near Chiengmai, 300 m., *Hosseus*, 373 ; Siam, *Murton*, 4.

Distr. Tropics.

Ipomoea vitifolia, *Sweet*—F.B.I., iv. p. 213 ; For. Fl. Burma, ii. p. 219 ; Williams, Bull. Herb. Boiss., v. (1905) p. 962 ; Hosseus, l.c., p. 503.

Between Lakon and Phre, near Pang Pooey, 420 m., *Kerr*, 983 ; Raheng, Wang Djao, *Lindhard*, 74.

Distr. S.E. Asia.

Ipomoea sp. near *I. carnea*, Jacq.

Bangkok, *Zimmermann*, 41—cultivated ?

Quamoclit pinnata, *Boj. Ipomoea Quamoclit*, Linn.—F.B.I., iv. p. 199 ; Hosseus, l.c., p. 502.

Chiengmai, 300 m., *Kerr*, 1347—"a garden weed" ; Bangkok, *Zimmermann*, 10.

Distr. Native of America—naturalised in S.E. Asia.

Lao name, Kaun Sa wun (ex *Kerr*).

Evolvulus alsinoides, *Linn.*—F.B.I., iv. p. 220.

Banks of Meh Ping near Raheng, *Kerr*, 503 ; Cape Liant, *Murton*, 39.

Distr. Tropics and subtropics.

Porana volubilis, *Burm.*—F.B.I., iv. p. 222 ; For. Fl. Burma, ii. p. 220 ; Hosseus, Bot. Centralbl., Beihefte, xxvii. 2, p. 501.

Bangkok, *Zimmermann*, 54.

Distr. India, Khasia, Manipur, Malaya.

Solanaceae.

Lycopersicum esculentum, *Mill.*—F.B.I., iv. p. 237.

Chiengmai, by a temple on Doi Sootep, 540 m., *Kerr*, 1252.

Native of Trop. America.

Lao name, Mă Keua Som.

Solanum album, *Lour.*

Raheng, *Lindhard*, 37.

Var. **Gaudichaudii**, *Dunal*—Williams, Bull. Herb. Boiss., v. (1905) p. 439.

Bangkok, *Zimmermann*, 17.

The writer has seen no authentic material of either the species or the variety. Lindhard's plant was so named by C. B. Clarke, and Zimmermann's was distributed under that name.

Solanum ferox, *Linn.*—F.B.I., iv. p. 233 ; For. Fl. Burma, ii. p. 226, excl. var.

Chiengmai, on waste ground, 300 m., *Kerr*, 1236.

Distr. India, S.E. China, Indo-China, Malaya.

Solanum Melongena, *Linn.*—F.B.I., iv. p. 235 ; Williams, Bull. Herb. Boiss., v. (1905) p. 439. *S. ferox*, Linn., var. *Trongum*, Kurz, For. Fl. Burma, ii. p. 226.

Chiengmai, on waste ground, 300 m., *Kerr*, 1237.

Distr. Tropics and subtropics.

Solanum nigrum, *Linn.*—F.B.I., iv. p. 229.
Chiengmai, on waste ground, 300 m., *Kerr*, 1231.
Distr. Widely spread in tropical and subtropical countries.

Solanum torvum, *Swartz*—F.B.I., iv. p. 234; For. Fl. Burma, ii. p. 225; Williams, Bull. Herb. Boiss., v. (1905) p. 439.
Chiengmai, Doi Sootep, 660–900 m., *Kerr*, 1801, *Hosseus*, 475.
Distr. S.E. Asia, Trop. America.
Evidently allied is *Zimmermann*, 25, which is destitute of flowers or fruit, and which was referred by Williams to *S. Melongena*.

Solanum verbascifolium, *Linn.*—F.B.I., iv. p. 230; For. Fl. Burma, ii. p. 225.
Chiengmai, in scrub jungle, 300 m., *Kerr*, 1225.
Distr. Tropics.

Datura Bojeri, *Del. ex Dunal. D. Metel*, Williams, Bull. Herb. Boiss., v. (1905) p. 439, *non* Linn.
Bangkok, *Zimmermann*, 109.
Distr. Japan, Sikkim, Trop. Africa—often cultivated?

Scrophulariaceae.

Mazus rugosus, *Lour.*—F.B.I., iv. p. 259; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 99.
Chiengmai, 300 m., *Kerr*, 1472—"a garden weed."
Distr. E. and S.E. Asia.

Lindenbergia macrostachya, *Benth.*—F.B.I., iv. p. 262; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 99; Williams, Bull. Herb. Boiss., v. (1905) p. 437. *L. siamensis*, Williams, l.c.
Bangkok, *Schomburgk*, 233. Siam, *Teysmann*.
Distr. Himalayas, China, Indo-China.

Lindenbergia philippensis, *Benth.*—F.B.I., iv. p. 261; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 99; Williams, Bull. Herb. Boiss., v. (1905) p. 437.
Between Lakon and Phre, near Ban Meh Tah, 300 m., *Kerr*, 986; Chiengmai, on old walls, 300 m., Kerr, 1692 (a dwarfed plant).
Distr. China, Indo-China, Malaya.

Lindenbergia urticaefolia, *Lehm.*—F.B.I., iv. p. 262; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 100.
Chiengmai, Doi Sootep, 300–720 m., *Kerr*, 923; banks of Meh Ping, 400 m., *Hosseus*, 388.
Distr. India, China, Indo-China.

Adenosma capitatum, *Benth.*—F.B.I., iv. p. 264; Williams, Bull. Herb. Boiss., v. (1905) p. 437.
Chiengmai, Doi Sootep, in deciduous jungle, 360 m., *Kerr*, 1431.
Distr. S.E. Asia.

Limnophila gracilipes, *Craib*, sp. n., *L. hirsutae*, Benth., valde affinis sed foliis angustioribus semper oppositis, racemis longioribus, pedunculis pedicellisque longioribus et gracilioribus differt.
Chiengmai, Doi Sootep, 330 m., *Kerr*, 1464.
Very closely allied to *L. hirsuta*, but readily distinguished by its narrower leaves and its laxer, more graceful inflorescence.

Limnophila gratioloides, *Br.*—F.B.I., iv. p. 271.
Pitsanulok, Ban Jang, 120 m., *Hosseus*, 701.
Distr. Trop. Asia, Australia, Africa.

Limnophila heterophylla, *Benth.*, var. reflexa, *Hook. f.*, F.B.I., iv. p. 270.
Kedah, (ex Mat. Mal. Pen., 18 p. 350).
Distr. Tenasserim.

Limnophila hirsuta, *Benth.*—F.B.I., iv. p. 268.
Doi Intanon, 1150 m., *Hosseus*, 332.
Distr. S. E. Asia, Australia.

Limnophila pulcherrima, *Hook. f.*, F.B.I., iv. p. 267 ?
Pitsanulok, Ban Djam, 120 m., *Hosseus*, 702.
Distr. Sikkim, Malaya.

This plant is closely allied to *L. diffusa*, Benth., and indeed may be only a form of that species. *Lindhard* 21, from Raheng named *L. diffusa*, by C. B. Clarke, is somewhat similar.

Limnophila Roxburghii, *G. Don*—F.B.I., iv. p. 265.
Kedah, Langkawi, at Coah, (ex Mat. Mal. Pen., 18 p. 347).
Distr. S. E. Asia.

Limnophila sessiliflora, *Blume*—F.B.I., iv. p. 270.
Kedah, Langkawi, (ex Mat. Mal. Pen., 18 p. 350).
Distr. S. E. Asia.

Torenia cordifolia, *Roxb.*—F.B.I., iv. p. 276.
Chiengmai, Doi Sootep, 330 m., *Kerr*, 1354.
Distr. India, Burma, China, Java.

Torenia flava, *Ham.*—F.B.I., iv. p. 278.
Chiengmai, Doi Sootep, 330 m., *Kerr*, 1353.
Distr. China, Indo-China, Malaya.

Torenia oblonga, *Hance. Vandellia oblonga*, Benth.
Pitsanulok, Ban Jang, *Hosseus*, 706 (Herb. Hoss.!).
Distr. Hong Kong, Laos, Cochinchina.

Torenia parviflora, *Ham.*—F.B.I., iv. p. 278.
Wang Djao, *Hosseus*, 110 (Herb. Hoss.!).
Distr. Tropics.

Lindernia angustifolia, *Wettst. Vandellia angustifolia*, Benth.—F.B.I., iv. p. 282.
Chiengmai, 300 m., *Kerr*, 1470.
Distr. S. E. Asia.

Lindernia crustacea, *F. Muell.*—Williams, Bull. Herb. Boiss., v. (1905) p. 437. *Vandellia crustacea*, Benth.—F.B.I., iv. p. 279.
Chiengmai, in mixed jungle on Doi Sootep, *Kerr*, 1333 ; Wang Djao, *Hosseus*, 126.
Distr. Tropics.

Lindernia hirsuta, *Wettst.—non* Williams, Bull. Herb. Boiss., v. (1905) p. 437. *Vandellia hirsuta*, Benth.—F.B.I., iv. p. 280.
Chiengmai, 300 m., *Kerr*, 1394—a garden weed.
Distr. S. E. Asia.

Schomburgk 203, quoted by Williams l.c. under this species consists of a mixture of *L. erecta* and *Bonnaya veronicaefolia*, var.

There is in Herb. Kew another plant collected by Schomburgk which is probably *Ilysanthes parviflora*, but the material is poor.

Lindernia pedunculata, *Wettst.* *Vandellia pedunculata*, Benth.—F.B.I., iv. p. 282.

Chiengmai, Doi Sootep, 330–1050 m., *Kerr*, 1358, *Hosseus*, 495, 808.

Distr. S. E. Asia.

Lindernia scabra, *Wettst.* *Vandellia scabra*, Benth.—F.B.I., iv. p. 281.

Chiengmai, Doi Sootep, 330 m., *Kerr*, 1250, 1359.

Distr. S. E. Asia, Trop. Africa, Madagascar.

Bonnaya brachiata, *Link. et Otto*—F.B.I., iv. p. 284 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 100.

Chiengmai, in mixed jungle on Doi Sootep, 360 m., *Kerr*, 1334 ; Raheng, *Lindhard*, 25.

Distr. India, Indo-China, China, Malaya.

Bonnaya veronicaefolia, *Spr.*, var. **grandiflora**, *Hook. f.*, F.B.I., iv. p. 285.

Chiengmai, 300 m., *Kerr*, 1471.

Doubtfully separable as a variety from *B. veronicaefolia* which is widely distributed in S. E. Asia.

Scoparia dulcis, *Linn.*—F.B.I., iv. p. 289 ; Williams, Bull. Herb. Boiss., v. (1905) p. 438.

Chiengmai, 300 m., *Kerr*, 1342 ; Menam, *Hosseus*, 3 ; Raheng, *Lindhard*, 18.

Distr. Tropics.

Buchnera cruciata, *Ham.*—F.B.I., iv. p. 298 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 100 ; Williams, Bull. Herb. Boiss., v. (1905) p. 962.

Raheng, *Lindhard*, 8 ; Chiengmai, Doi Sootep, 400–600 m., *Hosseus*, 314 ; Ban Tang, 120 m., *Hosseus*, 708.

Distr. India, China, Indo-China, Malaya.

Striga lutea, *Lour.*—F.B.I., iv. p. 299 ; Williams, Bull. Herb. Boiss., v. (1905) p. 438.

Chiengmai, among grass in deciduous jungle on Doi Sootep, 300–720 m., *Kerr*, 740 ; Siam, *Murton*, 47.

Distr. S.E. Asia, Madagascar, Trop. Africa, Arabia.

Striga Masuria, *Benth.*—F.B.I., iv. p. 300 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 101.

Chiengmai, Doi Sootep, among grass in eng jungle, 300–600 m., *Kerr*, 741.

Distr. India, Burma, China, Philippines.

Centranthera hispida, *Br.*—F.B.I., iv. p. 301.

Chiengmai, in eng jungle on Doi Sootep, 540 m., *Kerr*, 826 ; Wang Djao, *Hosseus*, 106.

Distr. S.E. Asia, Australia.

Sopubia trifida, *Ham.*—F.B.I., iv. p. 302 ; Coll. et Hemsl. Journ. Linn. Soc., xxviii. p. 101.

Chiengmai, in open grassy jungle on Doi Sootep, 1350–1500 m. *Kerr*, 1512.

Distr. India, Burma, Assam, China, Philippines, Africa, Madagascar.

Orobanchaceae.

Aeginetia indica, *Roxb.*—F.B.I., iv. p. 320.
Chiengmai, in deciduous and evergreen jungle on Doi Sootep, 300–990 m., *Kerr*, 765, 1515; Angkor, *Lebeuf*.
Distr. S.E. Asia.

Lentibulariaceae.

Utricularia bifida, *Linn.*—F.B.I., iv. p. 332; Williams, Bull. Herb. Boiss., v. (1905) p. 432.
Chiengmai, Doi Sootep, 300 m., *Kerr*, 569.
Distr. S.E. Asia.

Utricularia bosminifera, *Ostenf.*, Fedde Rep. Nov. Sp., ii. (1906) p. 68.
Koh Chang, *Schmidt*, 704*a*.

Utricularia exoleta, *Br.*—F.B.I., iv. p. 329.
Chiengmai, Doi Sootep, 300 m., *Kerr*, 574.
Distr. S.E. Asia, Australia.

Utricularia flexuosa, *Vahl*—F.B.I., iv. p. 329; Williams, Bull. Herb. Boiss., v. (1905) p. 432.
Raheng, 126 m., *Kerr*, 505.
Distr. S.E. Asia, Australia.

Utricularia furcellata, *Oliver*, Journ. Linn. Soc., iii. p. 189. *U. furcellata*, var. *minor*, C. B. Clarke, F.B.I., iv. p. 334.
Chiengmai, among damp moss on rocks on Doi Sootep, 1350 m., *Kerr*, 787.
Distr. Sikkim, Khasia.

Utricularia hirta, *Klein*—F.B.I., iv. p. 332.
Chiengmai, Doi Sootep, 480–720 m., *Kerr*, 922.
Distr. Khasia, Chota Nagpur.

Utricularia Kerrii, *Craib*, sp. n., ab *U. rosea*, Edgew., calcare quam labio infero longiore distinguenda.
Herba erecta, 14–29 cm. alta. *Folia* per anthesin deficientia. *Scapus* strictus, plerumque simplex, flores 4 saltem gerens, squamis parvis medio affixis parce instructus; pedicelli circiter 1 mm. longi; bracteae medio affixae, utrinque acutae. *Calycis* segmentum inferum obovato-rotundatum, apice rotundatum, 2·5 mm. longum, superum quam infero paulo brevius, acutiusculum, amba extra minute puberula. *Corollae* fusco-purpureae labium superum obovato-ellipticum, emarginatum, 4 mm. longum, inferum refractum, apice truncato-emarginatum, 5 mm. longum; calcar 6 mm. longum, robustum, apice obtusiusculum; corollae partes omnes extra minute puberulae.
Chiengmai, in open marshy ground on Doi Sootep, 720 m., *Kerr*, 918.

Utricularia racemosa, *Wall.*—F.B.I., iv. p. 333.
Chiengmai, at foot of Doi Sootep, 300 m., *Kerr*, 570.
Distr. India, Assam, Burma, China.

Utricularia siamensis, *Ostenf.*, Fedde Rep. Nov. Sp., ii. (1906) p. 68.
Koh Chang, *Schmidt*, 704.

Utricularia sootepensis, *Craib*, sp. n., ab *W. filicauli*, Wall., calcare robusto recedit.

Herba terrestris, erecta, 4·5–8 cm. alta. *Folia* per anthesin rarissime deficientia, spathulata vel lineari-spathulata, 2–3 mm. longa, petiolo usque ad 3 mm. longo suffulta. *Utriculae* minutae, sparsae, globosae vel ellipsoideae. *Flores* terminales, solitarii vel 2–3 racemose dispositi ; bracteae parvae, medio fixae, utrinque acutae. *Sepala* subaequalia, vix 2 mm. longa. *Corollae* purpureae labium superum 1·5 mm. longum, inferum apice emarginatum, 1·75 mm. longum ; calcar late conicum, superne subito contractum, apice obtusum, 3 mm. longum.

Chiengmai, in eng jungle on Doi Sootep, 540 m., *Kerr*, 793.

Utricularia striatula, *Sm. U. orbiculata*, Wall.—F.B.I., iv. p. 334 ; Williams, Bull. Herb. Boiss., v. (1905) p. 433.

Chiengmai, on rocks and fallen tree trunks on Doi Sootep, 690–750 m., *Kerr*, 1418.

Distr. S.E. Asia.

Utricularia, *sp. n.*

Pitsanulok, 120 m., *Hosseus*, 711.

Gesneraceae.

Aeschynanthus macrocalyx, *Hosseus*, Notizbl. Bot. Gart. Berl., iv. (1907) p. 314, cum tab.

Described from a specimen which flowered in Berlin Botanic Garden, and which was introduced from Doi Sootep by *Hosseus*.

Aeschynanthus persimilis, *Craib*, sp. n., habitu *A. humili*, Hemsl., persimilis sed sepalis plerumque altius connatis, corolla intus haud papillata distinguenda.

Chiengmai, Doi Sootep, 1350–1650 m., *Kerr*, 515, *Hosseus*, 197.

In habit the Siam plant is very similar to the Yunnan *A. humilis*, differing from it chiefly in the want of the papillae on the inside of the corolla. Further collections of the Yunnan plant may prove that the Siam plant should be regarded rather as a variety or form.

Lysionotis serrata, *Don*—F.B.I., iv. p. 344.

Chiengmai, on rocks in open jungle and on trees in evergreen jungle, 1350–1500 m., *Kerr*, 791, 1376.

Distr. Himalayas, Assam, Burma, China.

Monophyllaea glabra, *Ridley*, Journ. Str. Br. R. As. Soc., xliv. p. 82.

Kasoom, (ex *Ridley*, l.c.).

Rhynchoglossum obliquum, *Blume*—F.B.I., iv. p. 367.

Chiengmai, on rocks by stream on Doi Sootep, 690 m., *Kerr*, 1424 ; Wang Djao, *Hosseus*, 97.

Distr. S.E. Asia.

Lepadanthus flexuosa, *Ridley*, Mat. Mal. Pen., 21 p. 782.

Kedah, Gunong Grenong, (ex *Ridley*, l.c.).

Tetraphyllum roseum, *Stapf ex Ridley*, Journ. Linn. Soc., xxxii. p. 524.

Pungah, (ex *Ridley*, l.c.).

Didymocarpus aureo-glandulosa, *C. B. Clarke*, Fedde Rep. Nov. Sp., iv. p. 292.

Chiengmai, Doi Sootep (ex *Clarke*, l.c.).

Didymocarpus fasciata, *Ridley*, Journ. Str. Br. R. As. Soc., xliv. p. 50.

Kedah, (ex *Ridley*, l.c.).

Distr. Pahang, Lingga, (ex *Ridley*, l.c.).

Didymocarpus (Eudidymocarpus) Kerrii, *Craib*, sp. n., *D. aureo-glandulosae*, C. B. Clarke, affinis sed foliis formae diversae supra haud argenteo-sericeis distincta.

Herba perennis, subacaulis vel caulescens, 4–21 cm. alta. *Folia* orbicularia, late elliptica, oblonga vel suprema ovata, apice rotundata vel obtusa, basi cordata, subcordata vel obtusa, 1–4·5 cm. longa, 1–4 cm. lata, chartacea vel rigide chartacea, margine crenata vel crenato-serrata, supra densius breviter pilosa, subtus aureo-glandulosa et praeterea costa nervisque pilosa, cetera fere glabra, nervis lateralibus utrinque circiter 6 supra subobscuris subtus prominulis ; petioli 0·4—5 cm. longi, ut in caule pilosi et parce aureo-glandulosi. *Inflorescentia* terminalis, pluriflora, superne parce glanduloso-pilosa, cetera glabra. *Calyx* tubuloso-campanulatus, 0·5 cm. longus, 0·3 cm. diametro, glaber, lobis parvis. *Corolla* paulo supra medium geniculata, 2 cm. longa, parte tubulosa 2·5 mm. diametro, apice 1 cm. diametro, glabra. *Filamenta* 2 mm. longa. *Ovarium* 1 cm. altum, cum stylo 3 mm. longo glabrum.

Chiengmai, on rocks in open jungle on Doi Sootep, 1350 m., *Kerr*, 786.

Didymocarpus lacunosa, *Hook. f.*, Bot. Mag. t. 7236.

Kedah, Langkawi, *Curtis*, 1655.

Didymocarpus (Eudidymocarpus) purpureo-picta, *Craib*, sp. n., affinis *D. stenanthei*, C. B. Clarke, sed calyce multo majore facile distinguenda.

Herba 14–21 cm. alta ; caulis simplex, pilosus et parcissime aureo-glandulosus. *Folia* oblonga, ovato-elliptica vel subrotunda, basi inaequalia, obtuse cuneata vel cordata, 3·5–10 cm. longa, 2·5–7·5 cm. lata, tenuiter chartacea, crenata vel crenato-serrata, supra pilosa, subtus costa nervisque praecipue pilosa praetereaque parce aureo-glandulosa, nervis lateralibus utrinque circiter 6 pagina utraque conspicuis ; petioli 1–11 cm. longi, pilosi. *Bracteae* 4 mm. longae, 6 mm. latae. *Calyx* campanulatus, 4 mm. longus, 5 mm. diametro, glaber, lobis parvis apice rotundatis. *Corolla* 2 cm. longa, glabra, parte cylindracea 2 mm. diametro parte suprema expansa 1 cm. diametro. *Filamenta* 2·5 mm. longa, glabra. *Ovarium* glabrum, 8 mm. altum, stylo glabro 3 mm. longo.

Chiengmai, Doi Sootep, on rocks by a stream, 750 m., *Kerr*, 1414.

Paraboea cordata, *Ridley*, var. **debilis**, *Ridley*, Journ. Str. Br. R. As. Soc., xliv. p. 65. *Didymocarpus cordata*, Ridley, var. *debilis*, Ridley—Williams, Bull. Herb. Boiss., v. (1905) p. 433.

Kedah, (ex *Ridley*, l.c.).

Paraboea ferruginea, *Ridley*, Journ. Str. Br. R. As. Soc., xliv. p. 68.
Kedah, Langkawi, (ex *Ridley*, l.c.).
This is presumably *Boea ferruginea*, Ridley—Williams, Bull. Herb. Boiss., v. (1905) p. 434 as *Curtis*, 2566 is quoted in Mat. Mal. Pen. for both *Boea ferruginea* and *Paraboea ferruginea*.

Paraboea laxa, *Ridley*, Journ. Str. Br. R. As. Soc., xliv. p. 70. *Didymocarpus laxa*, Ridley—Williams, Bull. Herb. Boiss., v. (1905) p. 433.
Kedah, Langkawi, (ex *Ridley*, l.c.).

Paraboea obovata, *Ridley*, Journ. Str. Br. R. As. Soc., xliv. p. 71.
Kedah, Langkawi, (ex *Ridley*, l.c.).

Paraboea regularis, *Ridley*, Journ. Str. Br. R. As. Soc., xliv. p. 68. *Didymocarpus regularis*, Ridley—Williams, Bull. Herb. Boiss., v. (1905) p. 434.
Kedah, Langkawi, (ex *Ridley*, l.c.).

Chirita anachoreta, *Hance*.
Chiengmai, Doi Sootep, on rocks by streams, 690 m., *Kerr*, 1417.
Distr. Canton, Yunnan.

Chirita brevipes, *C. B. Clarke*—F.B.I., iv. p. 359.
Chiengmai, Doi Sootep, in evergreen jungle, 900 m., *Kerr*, 1164.
Distr. Khasia, Yunnan.

Chirita hamosa, *R. Br.*—F.B.I., iv. p. 360.
Chiengmai, Doi Sootep, 450–720 m., *Kerr*, 897, 1422.
Distr. India, Indo-China, Yunnan.

Chirita rupestris, *Ridley*, Journ. Str. Br. R. As. Soc., xliv. p. 59 ; Bot. Mag., t. 8333.
Kedah, Langkawi, (ex *Ridley*, l.c.).

Streptocarpus orientalis, *Craib*, sp. n., ab affini *S. Helsenbergii*, R. Br., caule vix glabrescente, foliis majoribus vix acutis, capsula graciliori recedit.
Herba erecta, 1·5–4 dm. alta ; caules solitarii, foliosi, usque ad inflorescentiam simplices, plus minusve, sed inferne nodosque prope densius, glanduloso-pilosi. *Folia* plerumque ovata vel elliptico-ovata, apice obtusa vel rotundata, basi interdum inaequalia, cuneata, 2·5–9 cm. longa, 2–7 cm. lata, membranacea, margine crenata vel crenato-serrata, utrinque pilosa, nervis lateralibus utrinque 4–5 subtus prominulis ; petioli 0·5–5 cm. longi, indumento ut in caule. *Pedicelli* ad 3 cm. longi, breviter parce glanduloso-pilosi. *Calycis* segmenta lanceolata vel lineari-lanceolata, circiter 4 mm. longa, 0·75 mm. lata, indumento dorso ut in pedicellis. *Corolla* purpurea (ex *Kerr*), circiter 4 cm. longa, apice 1 cm. diametro, extra parce pilosula. *Filamenta* 8 mm. longa, glabra. *Ovarium* 1·6 cm. altum, cum stylo 9 mm. longo glanduloso-pubescens. *Capsula* ad 5 cm. longa, 2 mm. diametro.
Chiengmai, on rocks near a stream on Doi Sootep, 540 m., *Kerr*, 769.
The genus *Streptocarpus* has not, so far as the writer is aware, yet been recorded from Eastern Asia. The plant described above belongs to the section *Caulescentes* of Fl. Trop. Afr., iv. p. 504.

Boea divaricata, *Ridley*, Journ. Str. Br. R. As. Soc., xliv. p. 75.
Kedah, Langkawi, Ayer Hangat, *Curtis*, 3683.

Boeica brachyandra, *Ridley*, Journ. Str. Br. R. As. Soc., xliv. p. 78.
Kedah, Langkawi, (ex *Ridley*, l.c.).

Bignoniaceae.

Millingtonia hortensis, *Linn. f.*—F.B.I., iv. p. 377 ; For. Fl. Burma, ii. p. 238.
Banks of Meh Ping, *Hosseus*, 168 ; Phre, *Luang Vanpruk*, 134.
Distr. India, Malaya.

Dolichandrone Rheedii, *Seem.*—F.B.I., iv. p. 379. *Spathodea Rheedii*, Wall.—For. Fl. Burma, ii. p. 234.
Paknampo, *Witt*, 15.
Distr. India, Malaya, Polynesia.

Markhamia stipulata, *Seem.* ? *Dolichandrone stipulata*, Benth.—F.B.I., iv. p. 379. *Spathodea stipulata*, Wall.—For. Fl. Burma, ii. p. 234.
Lakon, near Hang Sut, in deciduous jungle, 360 m., *Kerr*, 1013.
Distr. Burma.
Lao name, Kaa Hua Moo.
The indumentum of the fruit is rather that of *M. cauda-felina* but the seeds and flower are of *M. stipulata*.

Stereospermum chelonoides, *DC.*—F.B.I., iv. p. 382 ; For. Fl. Burma, ii. p. 230 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 102.
Chiengmai, Doi Sootep, 600 m., *Kerr*, 1167.
Distr. India, Burma, Yunnan, Java (?), Trinidad, (cult.).

Stereospermum fimbriatum, *DC.*—F.B.I., iv. p. 383 ; For. Fl. Burma, ii. p. 231.
Tongkah (Junkseylon), *Curtis*, 2912.
Distr. Burma, Malay Peninsula.

Stereospermum neuranthum, *Kurz*—F.B.I., iv. p. 382 ; For. Fl. Burma, ii. p. 230.
Chiengmai, in deciduous jungle on Doi Sootep, 840 m., *Kerr*, 1128.
Distr. Burma.
The indumentum of the calyx is not so dense as in Kurz's type specimens but is exactly that of Parish's Moulmein plants.

Radermachera sp. n.
Bangkok, Legation Garden, *Paget*.
A very distinct plant on account of its densely warted calyx but unfortunately not sufficiently represented for description.

Martyniaceae.

Martynia annua, *Linn.* *M. diandra*, Glox.—F.B.I., iv. p. 386, *in nota*.
Chiengmai, on waste ground, 300 m., *Kerr*, 779.
Introduced from Trop. America.

Acanthaceae.*†

Thunbergia similis, *Craib*, sp. n., a *T. fragrante*, Roxb., foliis integris basi cuneatis vel obtusis breviter petiolatis distinguenda.

Herba repens vel scandens ; caules monocarpici, quadrangulares, pilis reflexis rigidiusculis parce instructi. *Folia* infima ellipticolanceolata, suprema lanceolata, apice obtusa vel acutiuscula, apiculata, basi plerumque cuneata vel obtusa, 1·8–8 cm. longa, 1–3·1 cm. lata, rigide chartacea, supra pilis paucis rigidis scabridula, subtus fere glabra, margine integra, nervis lateralibus utrinque 4–6 intra marginem arcuatis duobus basalibus valde obliquis utrinque subprominulis, petiolis circiter 0·5 cm. longis suffulta. *Flores* albi, axillares, gemini, pedicellis vix 3 cm. attingentibus suffulti ; bracteolae sub anthesin liberae, oblongo-lanceolatae, apice acutae, 1·1–1·4 cm. longae, 0·5 cm. latae, dorso parce pubescentes et apices versus pauci-ciliatae. *Calycis* lobi lanceolati vel late lanceolati, acuti, breviter pilosuli. *Corollae* albae tubus 2·2 cm. longus, 2·5 mm. diametro, superne parce pubescens, lobi obcordati, 1·8 cm longi, 1·8 cm. lati, ciliati. *Antherae* 3 mm. longae, connectivo apice producto.

Chiengmai, Doi Sootep, 300–900 m., *Kerr*, 753.

Thunbergia Hossei, *C. B. Clarke apud Hosseus*, Engl. Bot. Jahrb., xli. p. 64.

Chiengmai, Doi Sootep, 660–700 m., *Hosseus*, 276, *Kerr*, 513.

Distr. Upper Burma, Ruby Mines, *Lace*, 5220.

Thunbergia laurifolia, *Lindl.*—F.B.I., iv. p. 392 ; For. Fl. Burma, ii. p. 240 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 103 ; Hosseus, Engl. Bot. Jahrb., xli. p. 64.

Between Lakon and Phre, near Ban Meh Tah, 300 m., *Kerr*, 987.

Distr. Malay Peninsula N. to Arracan.

Lao name, Dauk Nam Naa.

Staurogyne obtusa, *O. Kze.* *Ebermaiera obtusa*, T. And.—F.B.I., iv. p. 401. *Dracocephalum longipedicellatum*, Muschler, Fedde Rep. Nov. Sp., iv. p. 269.

Meh Ping, Chieng Dao, in evergreen jungle, 420 m., *Kerr*, 1054 ; between Wann Bao and Chieng Dao, 450 m., *Hosseus*, 464.

Distr. Mergui, Moulmein.

The Siamese plant is somewhat different from the Burmese in its slightly denser racemes and rather larger flowers and leaves.

Staurogyne setigera, *O. Kze.* *Ebermaiera setigera*, Nees—F.B.I., iv. p. 398. *E. subcapitata*, C. B. Clarke, Bot. Tidsskr., xxiv. p. 348.

Koh Chang, *Schmidt*, 271.

Distr. Malaya.

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* *See* Hosseus, "Die aus Siam bekannten Acanthaceen," Engl. Bot. Jahrb., xli. (1908), pp. 62–73.

† After the mss. of *Styracaceae—Gesneraceae* had gone to press a paper by Mr. H. N. Ridley on the Flora of Lower Siam has been received (Journ. Str. Br. Roy. As. Soc., 59 pp. 15 234). As Mr. Ridley has had more copious material from Lower Siam than is at present available in the Kew Herbarium it has been decided to omit all records from south of the Isthmus of Kra in dealing with the remaining orders (commencing at *Acanthaceae*).

Staurogyne siamensis, *C. B. Clarke*, Bull. Herb. Boiss., v. (1905) p. 716 ; Hosseus, Engl. Bot. Jahrb., xli. p. 65.
Raheng, *Lindhard*, 25.

Ophiorrhiziphyllon macrobotryum, *Kurz*—F.B.I., iv. p. 403.
Chiengmai, in dense evergreen jungle on Doi Sootep, 1650 m., *Kerr*, 1678.
Distr. Burma.

Nelsonia campestris, *Br.*—F.B.I., iv. p. 394 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 103 ; Hosseus, Engl. Bot. Jahrb., xli. p. 64.
Pang Pooey, 420 m. *Kerr*, 982 ; Doi Kum, 360 m., *Kerr*, 1657 ; Chiengmai, 300 m., *Hosseus*, 443 ; Doi Sootep, 1050 m., *Hosseus*, 490.
Distr. S.E. Asia, Australia, Africa, America.
The plants quoted above belong to the large leaved form (*N. vestita*, R. & S., *Justicia tomentosa*, Roxb.). The plant collected at Bangkok by Schomburgk (No. 192) belongs rather to the typical form as enumerated by Williams, Bull. Herb. Boiss., v. (1905) p. 435.

Cardanthera avana, *Benth.*—F.B.I., iv. p. 405 ; Hosseus, Engl. Bot. Jahrb., xli. p. 65.
Chiengmai, 300 m., *Hosseus*, 176.
Distr. Burma.
Lao name, Dog Nja Djong Fuang (ex *Hosseus*, l.c.).

Daedalacanthus tetragonus, *T. And.*—F.B.I., iv. p. 420 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 103 ; Williams, Bull. Herb. Boiss., v. (1905) p. 962 ; Hosseus, Engl. Bot. Jahrb., xli. p. 68.
Chiengmai, Doi Sootep, 660–900 m., *Kerr*, 948 ; between Wann Bao and Chieng Dao, 400 m., *Hosseus*, 389 ; Raheng, between Long Ison and Nong Boa, *Lindhard*, 52.
Distr. Burma.

Hemigraphis Schomburgkii, *Craib*, sp. n., ab *H. flava*, Kurz, foliis lanceolatis facile distinguenda.
Folia lanceolata, apice acuminata, basi in petiolum brevem attenuata, 5·5–12·5 cm. longa, 1–2 cm. lata, rigide chartacea, utrinque glabra et lineolata sed pagina superiore quam inferiore densius lineolata, margine integro recurvo, nervis lateralibus utrinque 6–7 pagina utraque prominulis nervis transversis supra subprominulis. *Capitula* et terminalia et ramulos breves axillares terminantia, 1·5–2 cm. longa, 1·5 cm. diametro, pluriflora ; bracteae ovato-lanceolatae, obtusiusculae, 1·2 cm. longae, 0·6 cm. latae, utrinque puberulae et extra inferne pilosae, ciliatae, nervis distinctis ; bracteolae parvae, lanceolatae, acutae, pilosae. *Calycis* segmenta linearilanceolata, acutiuscula, 1 cm. longa, 1·5 mm. lata, extra puberula, intra appresse albo-pubescentia, ciliata, superne longe ciliata. *Corolla* tubuloso-campanulata, circiter 2·5 cm. longa, apice 1 cm. diametro, extra parce pilosula, intra dorse praecipue longe pilosa ; lobi 5, subaequales, rotundati. *Filamenta* longiora valde barbata, breviora parce pilosa. *Ovarium* glabrum, 8-ovulatum ; stylus parce pubescens.—*H. flava*, Williams, Bull. Herb. Boiss., v. (1905) p. 436, *non* Kurz.
Bangkok, *Schomburgk*, 145.

Strobilanthes anfructuosus, *C. B. Clarke apud Hosseus*, Engl. Bot. Jahrb., xli. p. 66.
Doi Intanon, 1150 m., *Hosseus*, 336.
Lao name, Dog Hom Ba (ex *Hosseus*, l.c.).
Karen name, Bed Jau Po (ex *Hosseus* l.c.).

Strobilanthes consors, *C. B. Clarke apud Hosseus*, Engl. Bot. Jahrb., xli. p. 66.
Chiengmai, Doi Sootep, 1680 m., *Hosseus*, 256 ; Muang Fang (ex *Hosseus*, l.c.).

Strobilanthes erectus, *C. B. Clarke apud Hosseus*, Engl. Bot. Jahrb., xli. p. 67.
Doi Chieng Dao (ex *Clarke*, l.c.).

Strobilanthes Hossei, *C. B. Clarke apud Hosseus*, Engl. Bot. Jahrb., xli. p. 67.
Doi Intanon, 1600 m., *Hosseus*, 339.

Strobilanthes imbricatus, *Nees*—F.B.I., iv. p. 455 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 104.
Chiengmai, Doi Sootep, in evergreen jungle, 1500 m., *Kerr*, 884.
Distr. Burma.

Strobilanthes lilacinus, *C. B. Clarke apud Hosseus*, Engl. Bot. Jahrb., xli. p. 67.
Doi Chieng Dao, 2160 m., *Hosseus*, 402a.

Strobilanthes pentstemonoides, *T. And.*—F.B.I., iv. p. 460 ; Hosseus, Engl. Bot. Jahrb., xli. p. 67.
Chiengmai, Doi Sootep, 600–1680 m., *Hosseus*, 244, *Kerr*, 935.
Distr. Nepal, Bhotan, China.
Kerr's plant does not match any of the Indian specimens referred to this species but appears to be rather a well marked form with narrow and more rigid leaves.

Strobilanthes rex, *C. B. Clarke apud Hosseus*, Engl. Bot. Jahrb., xli. p. 68.
Doi Intanon, 2500 m., *Hosseus*, 352.

Strobilanthes siamensis, *C. B. Clarke*, Bull. Herb. Boiss., v. (1905) p. 716 ; Williams, Bull. Herb. Boiss., v. (1905) p. 962 ; Hosseus, Engl. Bot. Jahrb., xli. p. 68, *excl.* F.B.I. reference.
Klong Wang Djao, from Long Ison to Nong Boa, *Lindhard*, 55 ; Chiengmai, Doi Sootep, 450–1000 m., *Kerr*, 927, *Hosseus*, 251.

Strobilanthes xanthostictus, *C. B. Clarke apud Hosseus*, Engl. Bot. Jahrb., xli. p. 68.
Banks of Meh Ping, Wann Bao, (ex *Clarke*, l.c.).

Strobilanthes, sp. n. ?
Phre, Hooey Kamin, 300 m., *Kerr*, 988.
Not matched at Kew but I hesitate to describe as a new species since there are a few species described recently from Siam which I have not seen and of which the published descriptions are rather scanty.

Gutzlaffia pedunculata, *Craib*, sp. n., a *G. aprica*, Hance, capitulis haud sessilibus facile distinguenda.
Suffrutex ad 1·2 m. altus (ex *Kerr*) ; caules teretes, stricti, pilis brevibus sparsis scabriduli. *Folia* breviter petiolata, lanceolata vel

ovato-lanceolata, apice acuta, basi obtusa, 3·5–7 cm. longa, 1–2·4 cm. lata, subcoriacea, margine integro recurvo, supra scabrida, subtus albo-lanata, nervis lateralibus obliquis utrinque 7 supra conspicuis subtus prominulis nervis transversis obscuris. *Capitula* pauciflora, pedunculis (ramulis axillaribus) 2–6 cm. longis suffulta; bracteae conspicuae, calycem paulo excedentes, lanceolatae, acutae, ciliatae. *Calyx*, 1·3 cm. longus, fere ad medium lobatus, lobis inaequalibus lineari-lanceolatis acutis 1 mm. latis ciliatis. *Corollae* purpureae pars infima aequalis 2 cm. longa, 1 mm. diametro, pars expansa 2 cm. longa, 1·3 cm. diametro. *Filamenta* 1·2 cm. longa, basi pubescentia. *Stylus* breviter pubescens.

Chiengmai, in eng jungle on Doi Sootep, 360–450 m., *Kerr*, 1430.

Barleria cristata, *Linn.*—F.B.I., iv. p. 488; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 105; Hosseus, Engl. Bot. Jahrb., xli. p. 69.

Bangkok, *Zimmermann*, 19; Siamese Frontier, 360 m., *Candler*; Wang Djao, *Hosseus*, 80; Chiengmai, Doi Sootep, 300–900 m., *Kerr*, 815.

Distr. S.E. Asia—often cultivated.

Barleria lupulina, *Lindl.*—F.B.I., iv. p. 482, *in nota.*

Bangkok, *Lawson.*

Cultivated in S.E. Asia.

Lao name, Salate phang poru (ex *Lawson*).

Used by the natives as a remedy for snake bites (*Kew Bull.*, 1909, pp. 156 et 343).

Barleria siamensis, *Craib*, sp. n., ob caules pilis deflexis strigosos, folia supra pilis paucis conspicuis distantibus rigidis instructa subtus costa nervisque praecipue molliter pubescentia distincta.

Suffrutex sarmentosus, usque ad 1·2 m. altus (ex *Kerr*); caules pilis deflexis densius strigosi. *Folia* elliptica, elliptico-oblanceolata vel oblanceolata, apice longe acuminata, acuta, basi cuneata, 19–22 cm. longa, 5·5–7·5 cm. lata, chartacea, supra pilis paucis distantibus conspicuis rigidis instructa, subtus costa nervisque praecipue molliter pubescentia, nervis lateralibus utrinque 7 supra conspicuis subtus prominulis; petioli 1–1·5 cm. longi, pubescentes. *Calycis* segmenta 4, segmentum posticum ovatum, acutum, 3·5 cm. longum, 2 cm. latum, anticum ovato-lanceolatum, apice emarginatum, 3·1 cm. longum, 1·5 cm. latum, utrumque membranaceum, margine irregulariter dentato-ciliatum, nervis distinctis, segmenta lateralia 1·7 cm. longa, 1·5–2 mm. lata, apice bene attenuata, ciliata. *Corolla* purpurea (ex *Kerr*), longe exserta, extus parce puberula. *Discus* fere 1 mm. altus, margine subintegro. *Ovarium* 3·5 mm. altum, cum stylo glabrum.

Chiengmai, in evergreen jungle by a stream on Doi Sootep, 690 m., *Kerr*, 1415.

Barleria strigosa, *Willd.*—F.B.I., iv. p. 489; Hosseus, Engl. Bot. Jahrb., xli. p. 69.

Chiengmai, Doi Sootep, 300–750 m., *Kerr*, 822; Wang Djao, *Hosseus*, 81.

Distr. S.E. Asia—often cultivated.

Neuracanthus tetragonostachyus, *Nees*—F.B.I., iv. p. 491.
Chiengmai, Doi Kum, 360 m., *Kerr*, 1655.
Distr. Burma.

Asystasiella Neesiana, *Lindau*. *Asystasia Neesiana*, Nees—F.B.I., iv. p. 496 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 105. *A. chinensis*, S. Moore—Hosseus, Engl. Bot. Jahrb., xli. p. 70.
Chiengmai, in evergreen jungle on Doi Sootep, 420 m., *Kerr*, 1400 ; Wang Djao, Koh Yai, 110 m., *Hosseus*, 94.
Distr. Assam, Burma, China, Tonkin.

Asystasia Kerrii, *Craib*, sp. n., ab *A. macrocarpa*, Nees, bracteis conspicuis, sepalis 1·1 cm. longis recedit.
Suffrutex sarmentosus ; caules 3–5 mm. diametro, primo parce brunneo-puberuli, mox glabri, cortice brunneo vel rubro-brunneo obtecti. *Folia* opposita inaequalia, ovato-elliptica, ovato-lanceolata vel lanceolata, apice acuminata vel subacuminata, acuta, basi acuminata vel cuneata, 6–19 cm. longa, 1·5–7·3 cm. lata, utrinque fere glabra, nervis lateralibus utrinque 6–9 supra conspicuis subtus prominulis, petiolis ad 2 cm. longis suffulta. *Racemi* terminales, 3·5–8 cm. longi ; bracteae oblongo-oblanceolatae, apice breviter acuminatae, 7 mm. longae, 1·5–2 mm. latae, nervis conspicuis. *Sepala* 4, unum aliis paulo latius, 11 mm. longa, 1·5–2 mm. lata, ut in bracteis glanduloso-pubescentia. *Corolla* alba purpureo-picta (ex *Kerr*), 2·5 cm. longa, parte basi cylindracea 7 mm. longa 3 mm. diametro, parte inflata 7 mm. diametro, extus puberula ; lobi 5, subaequales. *Stamina* 4, filamentis ad 1 cm. longis glabris ; antherarum loculi subaequales, circiter 2·5 mm. longi, uno paulo altuis affixo, basi mucronati. *Ovarium* parce hirsutum, pilis deciduis ; stylus inferne pilis divergentibus parce instructus.
Chiengmai, in evergreen jungle by a stream on Doi Sootep, 690 m., *Kerr*, 537 ; hills between Muang Prow and Chieng Dao, 600 m., in evergreen jungle by a stream, *Kerr*, 1042.

Eranthemum Parishii, *C. B. Clarke*—F.B.I., iv. p. 499 ; Hosseus, Engl. Bot. Jahrb., xli. p. 70.
Chiengmai, Doi Sootep, 720–750 m., *Kerr*, 938, *Hosseus*, 267 ; Pitsanulok, Nakontai, 300 m., *Hosseus*, 722a.
Distr. Moulmein, Tenasserim.

Cystacanthus abbreviatus, *Craib*, sp. n., a *C. paniculato*, T. And., cui affinis, foliis basi longius attenuatis, petiolis longioribus, panicula brevi, calycis indumento breviore, corollae indumento sparsiore recedit.
Suffrutex sarmentosus, vix 1 m. altus (ex *Kerr*) ; ramuli primo teretes, virides, puberuli, mox tetragoni, straminei, minute scaberuli. *Folia* oblanceolata vel obovato-oblanceolata, apice breviter acuminata, obtusa, basi attenuata, ad 15 cm. longa, 5 cm. lata, chartacea, margine integro, supra glabra, subtus costa nervisque puberula, nervis lateralibus utrinque circiter 6 obliquis supra subprominulis subtus cum nervis transversis prominulis ; petioli usque ad 3·5 cm. longi. *Flores* in paniculam terminalem angustam abbreviatam dispositi ; bracteae parvae, deciduae ; pedicelli circa 3 mm. longi. *Calycis* segmenta lineari-lanceolata, subobtusa, 7 mm. longa, 1·5 mm. lata, extra appresse strigillosa, intra ut extra sed parcius, pilis glanduloso-capitatis ciliata. *Corolla* purpurea (ex *Kerr*), corollae

C. paniculati similis nisi indumento extra parciore. *Stamina* 2, filamentis 12·5 mm. longis ima basi hirsutis, antheris oblongis, connectivo breviter glanduloso-hirsuto. *Ovarium* circiter 2 mm. altum, glabrum, stylo superne glabro inferne pilis perpaucis breviusculis patulis instructo.

Lakon, Hooey Meh Tah, by a stream, 600 m., *Kerr*, 1019.

Phlogacanthus asperulus, *Nees*—F.B.I., iv. p. 512.

Meh Ping, Chieng Dao, in evergreen jungle, 420 m., *Kerr*, 1053.

Distr. Bengal, Assam, China.

Kerr's plant is identical with Simon's Khasia specimens but I do not feel sure these are quite typical.

Phlogacanthus curviflorus, *Nees*, var. **brevicalyx**, *C. B. Clarke*—F.B.I., iv. p. 511.

Chiengmai, on marshy ground in evergreen jungle on Doi Sootep, 900 m., *Kerr*, 957.

Distr. (of var.) Lower Burma.

The plant enumerated by Hosseus, Engl. Bot. Jahrb., xli. p. 69, as *P. curviflorus* from the same locality is probably identical with Kerr's plant. The calyx teeth in *Kerr*, 957, are slightly longer than in Clarke's types of var. *brevicalyx* but shorter than in true *curviflorus* and the calyx is nearly glabrous on the outside as in the variety.

Phlogacanthus Murtoni, *Craib*, sp. n., a *P. pubinervio*, T. And. et *P. Jenkinsii*, C. B. Clarke, quibus affinis, calyce 3 mm. tantum longo recedit.

Folia oblanceolata, apice acuminata, basi inaequalia, acuminata vel in petiolum attenuata, 9–15·5 cm. longa, 3·7–4·6 cm. lata, chartacea, utrinque glabra, nervis lateralibus utrinque circiter 9 supra conspicuis subtus prominulis nervis transversis utrinque subobscuris; petioli ad 1 cm. longi. *Racemi* axillares, oppositi, ad 1·5 cm. longi, glabri; bracteae lineares, parvae; bracteolae minutae, pedicello infra medium affixae; pedicelli ad 8 mm. longi. *Calycis* 3 mm. longi segmenta lineari-lanceolata, acuta. *Corolla* 2·2 cm. longa, glabra nisi lobis intra minute papillosis. *Stamina* exserta; filamenta 1·4 cm. longa, glabra vel basi pauperrime pilulosa; antherae 2 mm. longae. *Ovarium* cum stylo glabrum. *Capsula* circiter 3 cm. longa.

Kow Hoo Wen, *Murton*, 68.

Lepidagathis incurva, *Don*—Hosseus, Engl. Bot. Jahrb., xli. p. 71. *L. hyalina*, Nees—F.B.I., iv. p. 521.

Chiengmai, Doi Sootep, 960 m., *Kerr*, 953, at 1200 m., *Hosseus*, 261; Bangkok, *Schomburgk*, 162.

Distr. S.E. Asia.

Lepidagathis incurva, *Don*, var. **semiherbacea**, *C. B. Clarke*, F.B.I., iv. p. 521.

Chiengmai, in mixed jungle, 330 m., *Kerr*, 1660.

Distr. Sikkim, Assam, Burma.

Lepidagathis parviflora, *Blume*.

Chiengmai, Doi Sootep, 660 m., *Kerr*, 960.

Distr. Java, Tonkin.

Clinacanthus Burmanni, *Nees*—F.B.I., iv. p. 524.

Near Chantaboon, *Murton*, 61.

Distr. Hainan, Malacca, Borneo.

Justicia bicalcarata, *Craib*, sp. n., a *J. montana*, Wall., antherarum loculis omnibus distincte calcaratis recedit.

Suffrutex sarmentosus, ? scandens (ex *Kerr*). *Folia* ovato-lanceolata vel elliptica, apice acuminata, obtusa, basi obtusa vel rotundata, 4·5–16 cm. longa, 1·6–10 cm. lata, chartacea, margine subintegro, supra glabra, subtus primo dense mollissime mox costa nervisque praecipue molliter pubescentia, nervis lateralibus utrinque 7 supra conspicuis subtus prominulis ; petioli 1–3 cm. longi. *Racemi* vel terminales tantum vel etiam in axillis supremis ; bracteae late oblanceolatae, apice breviter acute acuminatae, 8 mm. longae, 4 mm. latae. *Calycis* segmenta lineari-lanceolata, acuta, 8 mm. longa, 1·5 mm. lata, utrinque breviter appresse fulvo-pubescentia. *Corolla* alba (ex *Kerr*), 2·5 cm. longa, distincte bilabiata ; labium superum oblongum, apice emarginatum, 1·5 cm. longum, 8 mm. latum, utrinque superne pilosulum et intra basi pilosum, inferum vix ad medium 3-lobatum, lobis superne utrinque pilosulis. *Filamenta* circiter 1·4 cm. longa, inferne barbata ; antherae biloculares, loculo quoque basi calcarato. *Stylus* inferne ut in ovario parce pubescens.

Near Muang Phre, 300 m., *Kerr*, 993.

Lao name, Dauk Mohlah.

Justicia diffusa, *Willd.*—F.B.I., iv. p. 538. *J. diffusa*, Willd., var. *orbiculata*, Williams, Bull. Herb. Boiss., v. (1905) p. 436, pro parte ; Hosseus, Engl. Bot. Jahrb., xli. p. 71, pro parte.

Anhin, *Schomburgk*, 253.

Var. orbiculata, *C. B. Clarke*, F.B.I., l.c. ; Williams, l.c., pro parte ; Hosseus, l.c., pro parte.

Anhin, *Schomburgk*, 273.

Distr. India.

Justicia fragilis, *Wall.*—F.B.I., iv. p. 528. *J. Gendarussa*, Williams, Bull. Herb. Boiss., v. (1905) p. 436 ; Hosseus, Engl. Bot. Jahrb., xli. p. 72—at least in part—*non* Linn. f.

Bangkok, *Schomburgk*, 140.

Distr. Mergui, Tonkin.

Justicia Gendarussa, *Linn. f.*—F.B.I., iv. p. 532 ; For. Fl. Burma, ii. p. 247 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 106 ; Williams, Bull. Herb. Boiss., v. (1905) p. 436 et Hosseus, Engl. Bot. Jahrb., xli. p. 72, *excl.* planta Schomburgkiana.

Bangkok, *Lawson*, *Zimmermann*, 126 ; between Raheng and Paknampo, 105 m., *Kerr*, 501 ; Chiengmai, foot of Doi Sootep, 360 m., *Kerr*, 529 ; Phre, 180 m., *Luang Vanpruk*, 192 ; Koh Chang, *Schmidt*, 820.

Distr. China and Malay Archipelago to Africa.

Lao name, Bua Ha (ex *Luang Vanpruk*).

Used by the natives as a remedy for snake bites (*Kew Bull.*, 1909, pp. 156 et 343).

Justicia khasiana, *C. B. Clarke*, F.B.I., iv. p. 437 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 106.

Doi Chieng Dao, 2170 m., *Hosseus*, 403.

Distr. Khasia, Upper Burma.

This plant agrees with the specimen referred to *J. khasiana* by Coll. and Hemsl., l.c. and differs but slightly from the type in the rather broader leaves and less hispid stem.

Justicia procumbens, *Linn.*—F.B.I., iv. p. 539 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 106 ; Hosseus, Engl. Bot. Jahrb., xli. p. 72.

Chiengmai, Doi Sootep, 300–700 m., *Kerr*, 1368, *Hosseus*, 279 ; Raheng, Tapotsah, *Lindhard*, 25 ; Kau Phra Dang, *Hosseus*, 159.

Distr. S.E. Asia to Australia.

The Siam plant belongs to the form *latispica*, C. B. Clarke, F.B.I., l.c.

Justicia quadrifaria, *Wall.*—F.B.I., iv. p. 530 ; Hosseus, Engl. Bot. Jahrb., xli. p. 72. *J. Zollingeriana*, C. B. Clarke, F.B.I., iv. p. 530.

Chiengmai, Doi Sootep, 1200–1680 m., *Kerr*, 1101, 1287, *Hosseus*, 228.

Distr. S. China, Burma, Assam, Java.

Justicia quinqueangularis, *Koen.*—F.B.I., iv. p. 536.

Chiengmai, edge of paddy fields, 300 m., *Kerr*, 803.

Distr. Central India to Bengal.

Justicia ventricosa, *Wall.*—F.B.I., iv. p. 526 ; Williams, Bull. Herb. Boiss., v. (1905) p. 436 ; Hosseus, Engl. Bot. Jahrb., xli. p. 72.

Between Lakon and Phre, near Ban Meh Tah, 300 m., *Kerr*, 994; Chantaboon, *Murton*, 70.

Distr. Burma, S. China.

Adhatoda Vasica, *Nees*—F.B.I., iv. p. 540 ; Hosseus, Engl. Bot. Jahrb., xli. p. 72.

Doi Saket, Ban Sun Pah Suk, 600 m., *Kerr*, 1025 ; Bangkok, *Schomburgk*, 153.

Distr. E. Asia.

Rungia parviflora, *Nees* — F.B.I., iv. p. 550 ; Williams, Bull. Herb. Boiss., v. (1905) p. 437 ; Hosseus, Engl. Bot. Jahrb., xli. p. 71.

Tapotsah, *Lindhard*, 7 ; near Ban Takilek, 300 m., *Hosseus*, 323.

Var. **pectinata**, *C. B. Clarke*, F.B.I., l.c. ; Hosseus, l.c.

Chiengmai, Doi Sootep, in deciduous jungle, 600 m., *Kerr*, 1426 ; banks of Meh Ping, opposite Ban Salu, 350 m., *Hosseus*, 383.

Distr. India, China, Indo-China.

Dicliptera riparia, *Nees*—F.B.I., iv. p. 553 ; Hosseus, Engl. Bot. Jahrb., xli. p. 71.

Ban Takilek, 300 m., *Hosseus*, 322.

Distr. Lower Burma.

Lao name, Dog Gambong Ba (ex *Hosseus*, l.c.).

Dicliptera Roxburghiana, *Nees*—F.B.I., iv. p. 553.

Chiengmai, 300 m., *Kerr*, 1632—"a garden weed."

Distr. N. India, Assam.

Peristrophe lanceolaria, *Nees*—F.B.I., iv. p. 555 ; Hosseus, Engl. Bot. Jahrb., xli. p. 71.

Chiengmai, Doi Sootep, 700–800 m., *Kerr*, 921, *Hosseus*, 271 ; Pitsanulok, Nakontai, 150–200 m., *Hosseus*, 721.

Distr. Assam, Burma.

Verbenaceae.

Lantana Camara, *Linn.*—F.B.I., iv. p. 562, *in nota*. ? *L. mixta*, Linn.—For. Fl. Burma, ii. p. 253.
Chiengmai, on waste ground, 300 m., *Kerr*, 711 ; Bangkok, *Zimmermann*, 33, 170 ; collected on a journey from Tavoy to Bangkok, "very common Siamese plant," *Candler*.
Distr. Tropics.

Lantana indica, *Roxb.*—F.B.I., iv. p. 562; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 109.
Meh Ping, Muang Hawt, 240 m., *Kerr*, 2014.
Distr. Trop. Asia.

Duranta Plumieri, *Jacq.*
Bangkok, *Zimmermann*, 11, 159.
Native of America—often cultivated in the Tropics.

Callicarpa arborea, *Roxb.*—F.B.I., iv. p. 567 ; For. Fl. Burma, ii. p. 274 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 109.
Chiengmai, Doi Sootep, 900 m., *Kerr*, 691.
Distr. India, Burma, Assam, Yunnan, Malaya.
Lao name, Suk ki kai (ex *Kerr*).

Callicarpa cana, *Linn.*—F.B.I., iv. p. 568 ; Williams, Bull. Herb. Boiss., v. (1905) p. 430.
Chiengmai, in scrub jungle, 300 m., *Kerr*, 1226 ; Cape Ngob, *Schmidt*, 5.
Distr. Hainan, Malaya, Philippines, Indies.

Tectona grandis, *Linn. f.*—F.B.I., iv. p. 570 ; For. Fl. Burma, ii. p. 259 ; Williams, Bull. Herb. Boiss. v. (1905) p. 430.
Chiengmai, Doi Sootep, in mixed jungle, 330 m., *Kerr*, 1297.
Distr. India, Burma, Malaya—often cultivated.
Lao name, Mai Suk.

Premna fulva, *Craib*, sp. n., affinis *P. barbatae*, Wall., sed ramulis novellis petiolisque conspicue fulvo-pubescentibus facile distinguenda.

Suffrutex sarmentosus ? vel scandens (ex *Kerr*) ; ramuli juventute conspicue fulvo-pubescentes, striati, mox fere glabri, cortice rubro-brunneo obtecti. *Folia* variabilia, ovata, oblongo-ovata, oblongo-obovata, ovato-lanceolata vel subelliptica, apice acuminata, acuta, rarissime rotundata, basi late cuneata, rotundata vel subcordata, 4–14·5 cm. longa, 2·8–8·5 cm. lata, chartacea, margine irregulariter crenato-serrata, nonnunquam integra, supra pilis paucis rigidiusculis flavis instructa, subtus molliter pubescentia, nervis lateralibus utrinque 5–6 obliquis pagina superiore conspicuis inferiore prominentibus nervisque transversis prominulis ; petioli foliorum oppositorum parum inaequales, 2–5·5 cm. longi, ut in ramulis fulvo-pubescentes. *Cymae* in corymbas terminales ad 6 cm. longas et 9 cm. latas dispositae ; bracteae lineares, acutae, infimae ad 7 mm. longae. *Calyx* subbilabiatus, 2·5 mm. longus, 2·5 mm. diametro, lobis subaequalibus brevibus apice rotundatis. *Corollae* viridis tubus circiter 2 mm. longus, intus superne villosus ; labium posticum oblongum, vix retusum, 2 mm. longum, vix 2 mm. latum, inferum 3-lobatum, lobis apice rotundatis. *Filamenta* ad 2·5 mm. longa.

glabra. *Ovarium* globosum, 1 mm. diametro, apice pilis paucis erectis instructum ; stylus 4 mm. longus, apice breviter bifidus, glaber.

Chiengmai, Doi Sootep, 660 m., *Kerr*, 1085.

Premna herbacea, *Roxb.*—F.B.I., iv. p. 581.

Chiengmai, in deciduous jungle on Doi Sootep, 330–600 m., *Kerr*, 1218.

Distr. Himalayas, Assam, (S. Deccan Peninsula, ex F.B.I., l.c.).

Premna nana, *Coll. et Hemsl.*, Journ. Linn. Soc., xxviii. p. 109.

Chiengmai, Doi Sootep, in deciduous jungle, 300–600 m., *Kerr*, 1127.

Distr. Upper Burma.

Gmelina arborea, *Linn.*—F.B.I., iv. p. 581 ; For. Fl. Burma, ii. p. 264 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 110.

Chiengmai, Doi Sootep, 690–900 m., *Kerr*, 540, *Hosseus*, 576 (as to flowers only—the leaves being evidently those of *Columbia floribunda*, Wall., Herb. Kew ! et Copenhagen !).

Distr. S.E. Asia.

Vitex canescens, *Kurz*—F.B.I., iv. p. 586 ; For. Fl. Burma, ii. p. 270 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 110.

Phre, 120–180 m., *Luang Vanpruk*, 143 ; Chiengmai, 300 m., *Kerr*, 1705 ; Doi Sootep, 330 m., *Kerr*, 1766.

Distr. Assam, Burma, Yunnan.

Vitex limonifolia, *Wall.*—F.B.I., iv. p. 584 ; For. Fl. Burma, ii. p. 271 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 110 ; Williams, Bull. Herb. Boiss., v. (1905) p. 431.

Phre, 150–240 m., *Luang Vanpruk*, 184 ; Meh Ping, Doi Noi, 300 m., *Kerr*, 2011.

Distr. Burma.

Lao name, Tin Nok.

Vitex peduncularis, *Wall.*—F.B.I., iv. p. 587.

Chiengmai, in mixed jungle at foot of Doi Sootep and in deciduous jungle on lower slopes of Doi Sootep, 300–450 m., *Kerr*, 572 ; Phre, 156–240 m., *Luang Vanpruk*, 122.

Distr. Bengal, Assam, Burma.

Vitex trifolia, *Linn.*—F.B.I., iv. p. 583 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 110. *V. Agnus-castus*, Linn., var. *trifolia*, Kurz, For. Fl. Burma, ii. p. 270.

Chiengmai, in scrub jungle, 330 m., *Kerr*, 1248 ; Rayong, *Schmidt*.

Distr. India to Japan and southwards to N. Australia.

Schmidt's plant is typical var. *unifoliata* but some of Dr. Kerr's specimens show trifoliolate associated with unifoliolate leaves on the same branches.

Vitex sp.

Me Yuak Phre, 240 m., *Luang Vanpruk*, 241—very young.

Clerodendron Colebrookianum, *Walp.*—F.B.I., iv. p. 594.

Chiengmai, on the edge of a clearing on Doi Sootep, 720 m., *Kerr*, 812.

Distr. S.E. Asia.

Clerodendron Garrettianum, *Craib*, sp. n., ab affini *C. Fortunei*, Hemsl., foliis basi haud attenuatis, panicula subnutante, corollae extus puberulae tubo gracili 2 cm. tantum longo, lobis usque ad 1 cm. longis recedit.

Suffrutex sarmentosus, ad 1·2 m. altus (ex *Kerr*) ; ramuli graciles, primo puberuli, mox glabri, cortice brunneo vel rubro-brunneo obtecti. *Folia* oblonga vel oblongo-lanceolata, apice acuminata, acuta, basi plerumque latissime cuneata sed interdum cuneata, cuneato-rotundata vel truncato-subcordata, parum inaequalia, 5·5–19 cm. longa, 1·5–5·8 cm. lata, tenuiter chartacea, subintegra, ciliolata, supra parcissime setulosa, subtus costa nervisque puberula, nervis lateralibus utrinque 7–9 duobus basalibus plerumpue valde obliquis, supra cum nervis transversis conspicuis subtus prominentibus ; petioli foliorum oppositorum parum inaequales, 0·5–5 cm. longi, supra canaliculati, puberuli. *Panicula* terminalis, subnutans, circa 5 cm. longa, 6 cm. lata, pedunculo communi 2–3 cm. longo suffulta ; bracteae infimae lanceolatae, acuminatae, foliaceae, ad 1·3 cm. longae ; pedicelli ad 8 mm. longi, ut in ramulis novellis puberuli. *Calycis* extra puberuli tubus vix 2 mm. longus, lobi lanceolati, acuti, circa 5 mm. longi et 1·5 mm. lati. *Corollae* albo-viridis extra puberulae tubus 2 cm. longus, vix 1 mm. diametro, lobi subaequales, oblongo-spathulati, usque ad 1 cm. longi et 2·75 mm. lati, ciliolati. *Stamina* apicem versus tubi inserta, filamentis 1·7 cm. longis glabris, antheris oblongis 1·5 mm. longis. *Ovarium* glabrum ; stylus gracilis, 3·2 cm. longus, glaber, apice breviter bifidus.

Chiengmai, in evergreen jungle on Doi Sootep, 690–900 m., *Kerr*, 1309, 1435.

Clerodendron infortunatum, *Gaertn.*—F.B.I., iv. p. 594 ; For. Fl. Burma, ii. p. 267 ; Williams, Bull. Herb. Boiss., v. (1905) p. 432.

Chiengmai, Doi Sootep, 300–750 m., *Kerr*, 1094 ; Bangkok, *Schomburgk*, 106.

Distr. S.E. Asia.

Clerodendron paniculatum, *Linn.*, ? var. diversifolia, *C. B. Clarke*—F.B.I., iv. p. 593.

Chiengmai, Doi Sootep, in deciduous jungle, 300–720 m., *Kerr*, 762.

Distr. (of var.) Moulmein.

Clerodendron serratum, *Spreng.*, var. Wallichii, *C. B. Clarke*, F.B.I., iv. p. 592.

Chiengmai, Doi Sootep, *Kerr*, 735, 735a, 754.

On these three collections Dr. Kerr's remarks are as follows :—

735. Small tree about 20 ft. high in evergreen jungle at 3000 ft. (collected 18th July, 1909).

735a. Low thin bush about 3 ft. high, otherwise similar to 735, in evergreen jungle at 3600 ft. (collected same day as 735).

754. Annual shoots about 2–3 ft. high from perennial rootstock in deciduous jungle at 1000–1500 ft. (collected 8th Aug., 1909).

Clerodendron Vanprukii, *Craib*, sp. n., a *C. serrato*, Spreng., calyce haud truncato, bracteis valde diversis recedit.

Ramuli graciles, puberuli, striati. *Folia* elliptico-lanceolata vel ovato-lanceolata, apice acuta, basi in petiolum brevem attenuata, 9–20 cm. longa, 5–9 cm. lata, membranacea vel tenuiter chartacea, profunde irregulariter biserrata, supra puberula, subtus costa nervisque pilosula, nervis lateralibus utrinque circiter 8 intra

marginem arcuatis supra cum nervis transversis conspicuis subtus prominulis. *Panicula* terminalis, circiter 12 cm. longa, 3 cm. diametro ; pedunculi communi oppositi, ad 1·3 cm. longi ; bracteae subrhomboideae, apice rotundatae, ad 2·5 cm. longae et 2·5 cm. latae, margine a medio apicem versus crenato-serratae, ciliatae, rufo-pubescentes.

Phre, Hooey Kamin, 240 m., *Luang Vanpruk*, 207.

Glossocarya mollis, *Wall.*—F.B.I., iv. p. 598 ?

Banks of Menam, *Hosseus*, 5.

Distr. Moulmein.

Hymenopyramis brachiata, *Wall.*—F.B.I., iv. p. 598 ; For. Fl. Burma, ii. p. 258 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 111.

Phre, 120 m., *Luang Vanpruk*, 178 ; Meh Ping, Ban Na, *Kerr*, 2017a ; Muang Hawt, *Kerr*, 2017.

Distr. Burma.

Lao name, Kua Kha pua.

Symphorema involucratum, *Roxb.*—F.B.I., iv. p. 599 ; For. Fl. Burma, ii. p. 254 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 111.

Phre, Hooey Kamin, 180 m., *Kerr*, 991.

Distr. S. India, Burma.

Sphenodesma pentandra, *Jack*—F.B.I., iv. p. 602. *S. Jackiana*, Schauer—Williams, Bull. Herb. Boiss., v. (1905) p. 432. *Symphorema Jackianum*, Kurz, For. Fl. Burma, ii. p. 255.

Meh Ping, Chieng Dao, in evergreen jungle, 390 m., *Kerr*, 1059 ; Chiengmai, in evergreen jungle on Doi Sootep, 750 m., *Kerr*, 1741.

Distr. Burma, Assam, Malaya.

Congea tomentosa, *Roxb.*—F.B.I., iv. p. 603 ; For. Fl. Burma, ii. p. 256 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 111.

Chiengmai, 300 m., *Kerr*, 533, *Hosseus*, 370 ; Phre, 120–180 m., *Luang Vanpruk*, 163.

Distr. Bengal, Burma, Assam.

In the length of the calyx teeth these specimens are intermediate between the type and var. *azurea*, C. B. Clarke.

Labiatae.*

Geniosporum strobiliferum, *Wall.*—F.B.I., iv. p. 610.

Chiengmai, in eng jungle on Doi Sootep, 300–600 m., *Kerr*, 771.

Distr. Himalayas, Assam, Yunnan.

Nosema capitatum, *Prain*, Journ. As. Soc. Beng., lxxiii. p. 20. *Elsholtzia blanda*, Hosseus, Bot. Centralbl., Beihefte xxvii. 2, p. 498, *non* Benth.

Kanburi, *Teysmann* ; Pitsanulok, Ban Jang, 120 m., *Hosseus*, 700.

Orthosiphon rubicundus, *Benth.* — F.B.I., iv. p. 614 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 112.

Chiengmai, in deciduous jungle on Doi Sootep, 300 m., *Kerr*, 655.

Distr. India, Burma.

Kerr's plant is identical with that collected by Collett in the Shan Hills and belongs probably to the form *virgatus* (Benth. pro sp.).

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* In a footnote to the *Labiatae* in Hosseus' paper 'Beiträge Zur Flora Siams' Bot. Centralbl. Berhefte xxvii. 2, it is stated that the determinations of the *Labiatae* are by Dr. Muschler.

Plectranthus hispidus, *Benth.*?—F.B.I., iv. p. 618 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 113. *P. scrophularioides*, Hosseus, Bot. Centralbl., Beihefte, xxvii. 2 p. 500, *non* Wall.

Chiengmai, Doi Sootep, 1650 m., *Hosseus*, 203.

Distr. Burma, Assam.

Lao name, Kambong (ex *Hosseus*, l.c.).

Plectranthus striatus, *Benth.*—F.B.I., iv. p. 618 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 113 ; Williams, Bull. Herb. Boiss., v. (1905) p. 430 et Hosseus, l.c. p. 500. p. p. *P. Volkensianus*, Muschler, Fedde Rep. Nov. Sp., iv. p. 268 ; Hosseus, l.c. p. 500.

Chiengmai, Doi Sootep, 660–1020 m., *Kerr*, 871 ; Doi Intanon, 500 m., *Hosseus*, 326 ; (? Siam), *Candler*.

Distr. N. India, Assam, Burma, S. China.

Schomburgk, 120 quoted by Williams and Hosseus under this species is *Ocymum sanctum*, Linn.

Plectranthus ternifolius, *Don*—F.B.I., iv. p. 621 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 113. *P. Hosseusii*, Muschler, Fedde Rep. Nov. Sp., iv. p. 268 ; Hosseus, l.c. p. 500. *Elsholtzia Thomsoni*, Hook. f.

Chiengmai, Doi Sootep, 1580 m., *Hosseus*, 259 ; Doi Intanon, 1120 m., *Hosseus*, 334.

Distr. N. India, China, Indo-China.

Pogostemon fraternus, *Miq.*—F.B.I., iv. p. 635. *Stachys scaberula*, Hosseus, l.c. p. 497, *non* Vatke.

Chiengmai, Doi Sootep, 1650–1700 m., *Kerr*, 1646, *Hosseus*, 198.

Distr. Sikkim, Manipur, Java.

Pogostemon glaber, *Benth.*—F.B.I., iv. p. 633.

Chiengmai, Doi Sootep, 1650 m., *Kerr*, 1684.

Distr. Sikkim, Nepal.

Differs from typical *P. glaber* in the nerves on the under surface of the leaf having a few scattered hairs and in the rather denser indumentum of the upper leaf surface and peduncles.

Dysophylla auricularia, *Blume*—F.B.I., iv. p. 638 ; Williams, Bull. Herb. Boiss., v. (1905) p. 430 ; Hosseus, l.c. p. 498.

Chiengmai, Doi Sootep, 720 m., *Kerr*, 746 ; Koh Chang, *Schmidt*, 261.

Distr. S.E. Asia.

Dysophylla Koehneana, *Muschler*, Fedde Rep. Nov. Sp., iv. p. 269 ; Hosseus, l.c. p. 499.

Pitsanulok, Ban Jang, 120 m., *Hosseus*, 704.

Dysophylla pentagona, *C. B. Clarke ex Hook. f.*, F.B.I., iv. p. 641. *D. linearis*, Hosseus, l.c. p. 499 (at least in part), *non* Benth.

Chiengmai, Doi Sootep, 330 m., *Kerr*, 1465, 700 m., *Hosseus*, 272.

Distr. Chota Nagpur.

Dysophylla sp. affinis *D. peguanae*, Prain et *D. Koehneanae*, Muschler. *D. peguana*, C. B. Clarke apud Ostenfeld, Bull. Herb. Boiss., v. (1905) p. 717 ; Williams, Bull. Herb. Boiss., v. (1905) p. 961 ; Hosseus, l.c. p. 499, *vix* Prain.

Raheng, Wang Djao, near Tapotsah, *Lindhard*, 25.

Colebrookia oppositifolia, *Smith*—F.B.I., iv. p. 642; For. Fl. Burma, ii. p. 277; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 114.
Doi Chieng Dao, 1700 m., *Hosseus*, 412.
Distr. India, Burma, Yunnan.

Elsholtzia blanda, *Benth.*—F.B.I., iv. p. 643; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 114. *Teucrium quadrifarium*, Hosseus, l.c. p. 495, *non* Ham.
Chiengmai, Doi Sootep, 1680 m., *Hosseus*, 239.
Distr. E. Himalayas, Burma, Assam, Yunnan, Sumatra.
Dracocephalum longipedicellatum, Muschler, Fedde Rep. Nov. Sp., iv. p. 269; Hosseus, l.c. p. 496 = *Staurogyne obtusa*, O. Kze.

Scutellaria glandulosa, *Hook. f.*—F.B.I., iv. p. 669; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 115.
Chiengmai, Doi Sootep, 300–600 m., *Kerr*, 659.
Distr. Burma.

Anisomeles ovata, *R. Br.*—F.B.I., iv. p. 672; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 115.
Chiengmai, in mixed jungle on Doi Sootep, 660 m., *Kerr*, 1490.
Distr. S.E. Asia.

Colquhounia coccinea, *Wall.*, var. **mollis**, *Prain*, Journ. As. Soc. Beng., lxii. p. 37. *C. vestita*, Hook. f., F.B.I., iv. p. 674 p.p.; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 116, *non* Wall. *Gomphostemma phlomoides*, Hosseus, l.c. p. 496, *non* Benth.
Doi Chieng Dao, 2180 m., *Hosseus*, 399.
Distr. E. Himalayas, Burma, Assam.

Colquhounia elegans, *Wall.*, var. **typica**, *Prain*, Journ. As. Soc. Beng., lxii. p. 37. *C. elegans*, Wall.—F.B.I., iv. p. 674; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 116. *Phlomis albiflora*, Hosseus, l.c. p. 497 *non* Hemsley.
Doi Chieng Dao, 2000 m., *Hosseus*, 410.
Distr. Burma, Manipur.

Colquhounia elegans, *Wall.*, var. **tenuiflora**, *Prain*, Journ. As. Soc. Beng., lxii. p. 38. *C. elegans*, Kurz, For. Fl. Burma, ii. p. 278, *non* Wall. (ex *Prain*, l.c.). *C. tenuiflora*, Hook. f., F.B.I., iv. p. 674. *Stachys siamensis*, Muschler, Fedde Rep. Nov. Sp., iv. p. 270; Hosseus l.c. p. 497.
Chiengmai, Doi Sootep, *Hosseus*, 196; Doi Sootep, 1650 m., *Kerr*, 1680.
Distr. Burma, Yunnan.

Leonurus sibiricus, *Linn.*—F.B.I., iv. p. 678.
Chiengmai, 300 m., *Kerr*, 1662—"a garden weed."
Distr. Trop. Asia, America.

Leucas aspera, *Spreng.*—F.B.I., iv. p. 690; Williams, Bull. Herb. Boiss., v. (1905) p. 961. *L. stelligera*, Williams, l.c. p. 430; Hosseus, l.c. p. 497, *non* Benth.
Wang Djao, river banks, *Hosseus*, 29, *Lindhard*, 76; Bangkok, *Zimmermann*, 168.
Distr. India, Malay Archipelago, Mauritius.

Leucas lanata, *Benth.*—F.B.I., iv. p. 681; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 116.
Doi Chieng Dao, 2200 m., *Hosseus*, 402.
Distr. India, Burma, S. China.

Leucas linifolia, *Spreng.*—F.B.I., iv. p. 690.
Banks of Meh Ping, opposite Ban Salu, 350 m., *Hosseus*, 379.
Distr. India, China, Malaya, Mauritius.

Leucas mollissima, *Wall.*—F.B.I., iv. p. 682. *Marrubium lamioides*, Muschler, Fedde Rep. Nov. Sp., iv. p. 271; Hosseus, l.c. p. 496.
Chiengmai, Doi Sootep, *Hosseus*, 206, 300 m., *Kerr*, 1331.
Distr. India, Assam, China, Tonkin.
Neither of these two plants is quite typical *L. mollissima*, that of Hosseus differing slightly in the calyx teeth while Kerr's plant has the inflorescence very much reduced.

Leonotis nepetaefolia, *Br.*—F.B.I., iv. p. 691.
Above Meh Ping Rapids, Ban Meh Kah, 195 m., *Kerr*, 911.
Distr. Trop. Asia, Africa, America.
***Gomphostemma intermedium**, *Craib*, Kew Bull., 1910 p. 23.
Chiengmai, Doi Sootep, 720 m., *Kerr*, 733.

Gomphostemma strobilinum, *Wall.*, var. **viridis**, *Hook. f.*, F.B.I., iv. p. 696; Prain, Ann. Roy. Bot. Gard. Calc., iii. 2, p. 247. *G. javanicum*, Hosseus, l.c. p. 496, *non* Benth.
Wang Djao, *Hosseus*, 62 (flowerless specimen).
Distr. Lower Burma.

Gomphostemma Wallichii, *Prain*, Ann. Roy. Bot. Gard. Calc., iii. 2, p. 245. *G. strobilinum*, Hook. f., F.B.I., iv. p. 696; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 116, *non* Wall. *G. dentatum*, Muschler, Fedde Rep. Nov. Sp., iv. p. 270; Hosseus, l.c. p. 496.
Chiengmai, Doi Sootep, 800–1500 m., *Kerr*, 1380, *Hosseus*, 280.
Distr. Yunnan (ex *Prain*, l.c.), Burma, Assam.

Teucrium quadrifarium, *Ham.* sensu lato—F.B.I., iv. p. 701. *T. tomentosum*, Hosseus, l.c. p. 496 *non* Heyne.
Chiengmai, in open grassy jungle on Doi Sootep, 1350–1500 m., *Kerr*, 1500; Doi Chieng Dao, on limestone, 2100 m., *Hosseus*, 418.
Distr. Himalayas, China, Burma, Khasia.
Hosseus, 418 in its minute bracts approaches *T. Wattii*, Prain but the leaves are those of *T. quadrifarium*. In no case, however, can it be referred to the S. Indian *T. tomentosum*. *Kerr*, 1500 is probably a tall form of *T. fulvum*, Hance.

INCOMPLETAE.

Nyctagineae.

Boerhaavia repanda, *Willd.*—F.B.I., iv. p. 709.
Meh Ping, Ban Na, *Kerr*, 2028.
Distr. India, Burma.

Amarantaceae.

Psilotrichum trichotomum, *Blume*—F.B.I., iv. p. 725.
Chiengmai, Doi Sootep, in deciduous jungle, 600 m., *Kerr*, 1427.
Distr. Burma, Assam, Malaya.

Aerua Monsonia, *Mart.*—F.B.I., iv. p. 728.
Cape Liant, *Murton*, 29.
Distr. India, Burma.

Achyranthes bidentata, *Blume*—F.B.I., iv. p. 730.
Chiengmai, Doi Sootep, in evergreen jungle, 900 m., *Kerr*, 1322.
Distr. India, Khasia, China, Japan, Java, Trop. Africa.

Alternanthera sessilis, *R. Br.*—F.B.I., iv. p. 731.
Chiengmai, 300 m., *Kerr*, 854.
Distr. Tropics and subtropics.

Polygonaceae.

Polygonum barbatum, *Linn.*—F.B.I., v. p. 37 ; Gage, Rec. Bot. Surv. Ind., ii. p. 397 ; Williams, Bull. Herb. Boiss., iv. (1904) p. 1030.
Chiengmai, bank of Meh Ping, 300 m., *Kerr*, 851 ; Bangkok, *Schomburgk*, 225.
Distr. Tropical and subtropical Asia, Africa, Australia.

Polygonum chinense, *Linn.* vars.
Chiengmai, Doi Sootep, 1500–1650 m., *Kerr*, 1104, *Hosseus*, 193 ; Doi Intanon, 2300–2570 m., *Hosseus*, 345, 355.
Of the above *Hosseus*, 345 is probably *P. chinense* and the remaining plants might be referred to the variety *ovalifolium* (Miq.).

Polygonum flaccidum, *Meissn.*—F.B.I., v. p. 39 ; Gage, Rec. Bot. Surv. Ind., ii. p. 402.
Chiengmai, bank of Meh Ping, 300 m., *Kerr*, 853.
Distr. S.E. Asia.

Polygonum glabrum, *Willd.*—F.B.I., v. p. 34 ; Gage, Rec. Bot. Surv. Ind., ii. p. 393.
Wang Djao, *Hosseus*, 31a, 31b, pro parte.
Distr. Tropical and subtropical Asia, Africa, America.

Polygonum stagninum, *Ham.*—F.B.I., v. p. 37 ; Gage, Rec. Bot. Surv. Ind., ii. p. 397.
Banks of Menam, *Hosseus*, 2 ; Wang Djao, *Hosseus*, 31b (Herb. Kew, pro parte ! et Copenhagen !).
Distr. India, Burma.

Muhlenbeckia platyclados, *Meissn.*
Chiengmai, Doi Sootep, 1700 m., *Hosseus*, 215 (Herb. Kew ! et Copenhagen !).
Native of Solomon Is.

Rafflesiaceae.

Richtofenia siamensis, *Hosseus*, Engl. Bot Jahrb., xli. p. 55, cum tab.
Chiengmai, Doi Sootep.
According to *Kerr* the host plant is *Tetrastigma cruciatum*.

Aristolochiaceae.

Aristolochia Hookeriana, *Craib*, sp. n., *A. Tagalae*, Cham., affinis sed bracteis conspicuis, floribus seminumque alis minoribus differt.

Caules scandentes, glabri, sulcati. *Folia* lanceolata vel late lanceolata, apice acuta, basi cordata vel interdum sagittata, 5–15·5 cm. longa, 1·5–4·8 cm. lata, tenuiter chartacea, supra marginem versus densius breviter hirsuta, subtus subglabra, e basi 5-nervata nervis secondariis (e costa ortis) utrinque 2–4 intra marginem arcuatis omnibus supra conspicuis subtus cum nervis transversis prominentibus; petioli 0·7–2 cm. longi. *Cymae* axillares, plerumque simplices, petiolos paulo superantes, pedunculo communi brevi; bracteae lanceolatae vel anguste lanceolatae, acutae, ad 1 cm. longae, 2 mm. latae; pedicelli 5–7 mm. longi, pilosi. *Receptaculum* subtubulosum, 5 mm. altum, 1 mm. diametro, pilosum. *Calycis* atro-purpurei (ex *Kerr*) pars ima basi tubulosa, 3 mm. longa, 0·5 mm. diametro, utriculus subglobosus, 3 mm. diametro, tubus superne dilatatus, circiter 8 mm. longus, 1 mm. diametro, limbus oblongus, breviter apiculatus, ad 1·6 cm. longus, extra, nervis praecipue, pilosus. *Fructus* pedicello ad 3·5 cm. longo suffultus, 6-costatus, 2–3 cm. longus, vix 2 cm. diametro; semina triangularia, tenuia, alis 1 mm. tantum latis.—*A. Roxburghiana*, Hook. f., F.B.I., v. p. 75, p.p.; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 118, *vix* Klotsch.

Chiengmai, in eng jungle on Doi Sootep, 390 m., *Kerr*, 838; in mixed jungle on Doi Sootep, 420 m., *Kerr*, 1454.

Distr. Upper Burma, *Collett*, 23; Rangoon, *Mc Clelland*.

To this species probably also belong *Lace* 3286 and 4328 from Maymyo Plateau although the larger, broader leaves remind one rather of *A. Tagala*, Cham.

Aristolochia Kerrii, *Craib*, sp. n., a speciebus indicis et indochinensibus habitu erecto recedit.

Caules e rhizomate oriundi annui, 30–45 cm. alti, puberuli, valde sulcati. *Folia* ovato-lanceolata, apice acuta, basi cordata, 3·5–8·5 cm. longa, 1·5–5·5 cm. lata, chartacea, supra juventute minute puberula, matura glabra, subtus nervis nervulisque minute densius puberula, e basi 5-nervata, nervis supra conspicuis subtus cum nervis transversis prominentibus; petioli 0·5–1·7 cm. longi, ut in caule puberuli. *Cymae* axillares, pauciflorae, breves, pedunculo perbrevi suffultae; bracteae conspicuae, lanceolatae, acutae, 6 mm. longae, 2 mm. latae; pedicelli ad 7 mm. longi, fere glabri. *Receptaculum* subtubulosum, circiter 3 mm. longum, 0·5 mm. diametro, sulcatum, glabrum. *Calycis* extra glabri utriculus subglobosus, 3 mm. diametro, tubus ad 7 mm. longus, superne parum dilatatus, limbus 8 mm. longus.

Chiengmai, in deciduous jungle on Doi Sootep, 600 m., *Kerr*, 627.

Piperaceae.

Piper boehmeriaefolium, *Wall.*—F.B.I., v. p. 85.

Chiengmai, in marshy evergreen jungle on Doi Sootep, 900 m., *Kerr*, 1260; Doi Intanon, 1600 m., *Hosseus*, 341 (Herb. Kew! et Copenhagen!).

Distr. E. Himalayas, Assam, Burma.

Of the specimens of this species collected by Dr. Kerr half of them agree with typical *P. boehmeriaefolium* in their glabrous leaves

and branchlets but the remainder differ in that the under surface of the leaves and the young branchlets are not glabrous.

Piper sp.
Chiengmai, in evergreen jungle on Doi Sootep, 660 m., *Kerr*, 1169.
Represented by male plants with only young inflorescences.

Peperomia pellucida, *Kunth.*
Chiengmai, 300 m., *Kerr*, 1442.
An introduced garden weed.

Peperomia reflexa, *A. Dietr.*—F.B.I., v. p. 99.
Chiengmai, on tree trunks in evergreen jungle on Doi Sootep, 1500 m., *Kerr*, 1375.
Distr. Tropics and subtropics.

Chloranthaceae.

Chloranthus kachinensis, *King et Prain*, Journ. As. Soc. Beng., lxix. p. 173.
Chiengmai, Doi Sootep, in open grassy jungle, 1380 m., *Kerr*, 1190.
Distr. Kachin Hills.

Lauraceae.

Beilschmiedia sp. n. ?
Phre Me Sang, 210 m., *Luang Vanpruk*, 214.

Cinnamomum iners, *Reinw.*—F.B.I., v. p. 130 ; ? For. Fl. Burma, ii. p. 287.
Meh Ping, Chieng Dao, in evergreen jungle, 420 m., *Kerr*, 1055.
Distr. Burma, Malaya.

Machilus Kurzii, *King ex Hook. f.*, F.B.I., v. p. 860 ?
Chiengmai, Doi Sootep, 1700 m., *Hosseus*, 184 (Herb. Kew ! et Copenhagen !).
Distr. Sikkim, Burma.

Actinodaphne angustifolia, *Nees* ?—F.B.I., v. p. 152.
Chiengmai, in evergreen jungle on Doi Sootep, 1140 m., *Kerr*, 1643 (♂ only).
Distr. Bengal, Burma, Assam, Malay Archipelago.

Litsaea polyantha, *Juss.*—F.B.I., v. p. 162. *Tetranthera monopetala*, Roxb.—For. Fl. Burma, ii. p. 299.
Chiengmai, in evergreen jungle on Doi Sootep, 660 m., *Kerr*, 1137 ; Phre, 120–180 m., *Luang Vanpruk*, 153.
Distr. Himalayas, Bengal, Assam, Burma, Hongkong, Hainan, Malay Peninsula.

Litsaea salicifolia, *Roxb.*—F.B.I., v. p. 167. *Tetranthera glauca*, Wall.—For. Fl. Burma, ii. p. 300.
Chiengmai, in evergreen jungle on Doi Sootep, 1500 m., *Kerr*, 1111.
Distr. N. India, Burma, Assam.

Litsaea sebifera, *Pers.*—F.B.I., v. p. 157.
Chiengmai, in mixed jungle at foot of Doi Sootep, 330 m., *Kerr*, 1208 ; ? Meh Ping, Muang Hawt, 240 m., *Kerr*, 2018.
Distr. S.E. Asia.

Litsaea semecarpifolia, *Wall.*—F.B.I., v. p. 165. *Tetranthera semecarpifolia*, Wall.—For Fl. Burma, ii. p. 303.

Chiengmai, in mixed jungle on Doi Sootep, 660 m., *Kerr*, 1760.

Distr. Bengal, Burma, Manipur.

Litsaea (?) sp.

Chiengmai, in evergreen jungle on Doi Sootep, 1200–1500 m., *Kerr*, 880 (♀ only).

Lindera caudata, *Benth.*—F.B.I., v. p. 184. *Daphnidium caudatum*, Nees—For. Fl. Burma, ii. p. 307.

Chiengmai, Doi Sootep, in evergreen jungle, 1260 m., *Kerr*, 1390.

Distr. Khasia and Naga Hills, Upper Burma.

Lindera pulcherrima, *Benth.*—F.B.I., v. p. 185 ; For. Fl. Burma, ii. p. 306.

Doi Intanon, 2570 m., *Hosseus*, 358 (Herb. Kew! et Copenhagen!).

Distr. Himalayas, Khasia.

Proteaceae.

Helicia erratica, *Hook. f.*, F.B.I., v. p. 189 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 119.

Chiengmai, in open jungle on slopes of ridges on Doi Sootep, 900–1500 m., *Kerr*, 622.

Distr. Sikkim, Assam, Burma (? Borneo).

Thymelaeaceae.

Linostoma persimile, *Craib*, sp. n., *L. pauciflora*, Griff., facie similis sed floribus brevioribus, staminibus inclusis, perianthio fructifero basi rotundato eiusque lobis dimidio brevioribus distinguenda.

Suffrutex erectus—vel interdum scandens—circiter 2 m. altus (ex *Kerr*), glaber. *Ramuli* teretes, virgati, cortice rubro-brunneo obtecti. *Folia* opposita vel subopposita, elliptica vel obovata, apice apiculata, basi cuneata, circiter 3 cm. longa, 1·5 cm. lata, margine integra, incrassata, chartacea, supra fusco-viridia, subtus pallidiora, nervis lateralibus utrinque numerosis parallelis cum costa supra subconspicuis subtus prominulis ; petioli 2 mm. longi, basi leviter incrassati. *Pedunculi* graciles, fere 3 cm. longi, 3-flori, bracteis tribus sessilibus ornati quarum una basin prope usque ad 1 cm. longa 5 mm. lata, ceterae medium prope flores obtegentes usque ad 2·5 cm. longae 2 cm. latae, foliis similibus nisi pallidioribus tenuioribus majoribusque basi cordatis apice acutis ; bracteolae parvae, filiformes vel auguste lanceolatae. *Alabastra* clavata. *Perianthii* tubus cylindraceus, 9 mm. longus, 2 mm. diametro, lobi 5, fere 5 mm. longi, squamae 10, lineares, lobis breviores. *Stamina* 10, inclusa. *Ovarium* densissime pilosum, 3 mm. altum.

Chiengmai, in open pine jungle on Doi Sootep, 915 m., *Kerr*, 814.

Loranthaceae.

Loranthus cultarum, *Craib*, sp. n., *L. pulverulento*, Wall., similis sed inflorescentiae indumento stellato, corolla multo breviore differt.

Ramuli teretes, lenticellati, cortice cinereo vel rubro-brunneo. *Folia* subelliptica vel ovato-lanceolata, apice obtusa, basi interdum

inaequalia, rotundata, 4–9·4 cm. longa, 2–5·2 cm. lata, subcoriacea, matura glabra vel subtus pilis stellatis perpaucis instructa, juventute utrinque stellato-tomentella, supra ferruginea, subtus pallida, nervis lateralibus utrinque 6–7 intra marginem arcuatis pagina utraque prominulis nervis transversis uti reticulatione laxa prominulis ; petioli 1 cm. longitudinis vix attingentes, glabrescentes. *Inflorescentia* axillaris, petiolis duplo vel triplo longior ; bracteae parvae ; pedicelli circiter 4 mm. longi, stellato-tomentelli. *Receptaculum* anguste turbinatum, 4 mm. altum, 1·5 mm. diametro, densius stellato-tomentellum. *Calyx* fere obsoletus. *Corollae* extra stellato-tomentellae intra glabrae tubus 1·6 cm. longus, inferne parum dilatatus, unilateraliter fere ad basin fissus, lobi 4, reflexi, linearis-pathulati, acuti, 7 mm. longi. *Filamenta* 2·5 mm. longa, glabra, paulo supra corollae loborum basin inserta, antheris circiter 2 mm. altis. *Stylus* stamina paulo superans, stigmate parvo capitato.

Chiengmai, 300 m., *Kerr*, 820—parasitic on cultivated trees, *Nerium Oleander* and *Pomegranate* (ex *Kerr*).

Loranthus Kerrii, *Craib*, sp. n., a *L. pentandro*, Linn., corolla multo majore recedit.

Ramuli teretes, lenticellati, cortice cinereo vel brunneo subnitido obtecti. *Folia* opposita, subopposita vel alterna, oblique lanceolata, late lanceolata vel ovata, apice obtusa, basi attenuata vel obtusa, 6–18 cm. longa, 3–12 cm. lata, rigide coriacea, utrinque glabra, nervis lateralibus utrinque 2–4 obliquis pagina utraque conspicuis, nervis transversis subconspicuis ; petioli 0·7–1 cm. longi, maturi crassi. *Inflorescentia* axillaris, petiolis duplo saltem longior ; bracteae solitariae, vix 3 mm. longae ; pedicelli circiter 4 mm. longi. *Receptaculum* cylindraceum, 3 mm. altum, 2·5 mm. diametro, tomentellum. *Calyx* conspicuus, margine subtruncatus vel irregulariter lobatus, 1·5 mm. altus, glabrescens. *Corolla* aurantiaca (ex *Kerr*) extra tomentella intra loborum summo apice tubique ima basi glabris exceptis parce stellato-pubescens ; tubus 1·6 cm. longus, 4–5 mm. diametro ; lobi medio reflexi, 2 cm. saltem longi, angusti, apice acuti. *Filamenta* 7 mm. longa, glabra, loborum circiter medium affixa, antheris 5 mm. longis. *Stylus* stamina paulo superans, glaber, stigmate parvo capitato.

Chiengmai, Doi Sootep, 300 m., *Kerr*, 949—on *Pentacme siamensis*.

Loranthus Parishii, *Hook. f.*, F.B.I., v. p. 205.

Chiengmai, Doi Sootep, 750 m., *Kerr*, 1763.

Distr. Tenasserim.

Loranthus pentandrus, *Linn.*—F.B.I., v. p. 216 ; For. Fl. Burma, ii. p. 320 ; Williams, Bull. Herb. Boiss., iv. (1904) p. 1028.

Chiengmai, 300 m., *Kerr*, 819 ; Doi Sootep, 900–1050 m., *Hosseus*, 499 (Herb. Kew! et Copenhagen!), 262 ; Bangkok, *Schomburgk*, 222, 313.

Distr. Indo-China, Malaya.

The writer has seen no specimen of *L. Zimmermannii*, Warb., Pl. nov. Herb. Hort. Then., t. 82 but the plate and description point to its being very closely allied to *L. pentandrus*.

Loranthus pentapetalus, *Roxb.* — F.B.I., v. p. 206 ; For. Fl. Burma, ii. p. 322 ; Williams, Bull. Herb. Boiss., iv. (1904) p. 1028.
Chiengmai, Doi Sootep, 1350 m., *Kerr*, 619 ; Chantaboon, *Murton*, 65.
Distr. Sikkim, Assam, Burma, Yunnan, Hainan, Malaya.

Loranthus scurrula, *Linn.*—F.B.I., v. p. 208 ; For. Fl. Burma, ii. p. 319.
Chiengmai, in open jungle on Doi Sootep, 1590 m., *Kerr*, 1377.
Distr. India, Assam, Burma.

Loranthus siamensis, *Kurz*—F.B.I., v. p. 223 ; For. Fl. Burma, ii. p. 320 ; Williams, Bull. Herb. Boiss., iv. (1904) p. 1028.
Kanburi, *Teysmann*.

Loranthus sootepensis, *Craib*, sp. n., a speciebus indicis ob indumentum, inflorescentiae praeclare, e pilis longiusculis verticillatim ramosis densissimis constitutum distincta.
Ramuli juventute pilis verticillatim ramosis dense albido-tomentosi, mox glabri, cortice brunnescente lenticellato obtecti. *Folia* ovata vel ovato-lanceolata, apice obtusa, basi rotundata, 5·5–10 cm. longa, 2·5–6 cm. lata, rigide chartacea, supra juventute pilis stellatis et verticillatim ramosis instructa, matura glabra, subtus costa nervisque indumento plus minusve persistente ut in ramulis novellis cetera pilis stellatis et praeterea pilis paucis verticillatim ramosis instructa, nervis lateralibus utrinque 5–7 pagina utraque sicco prominulis ; petioli circiter 1 cm. longi, ut in ramulis juvenilibus tomentosi. *Inflorescentia* axillaris, congesta, petiolos paulo superans, pilis verticillatim ramosis dense albido- vel subferrugineo-tomentosa ; pedicelli 3 mm. longi, fere 2 mm. diametro ; bracteae solitariae, 2·5 mm. longae. *Receptaculum* 7 mm. altum, 3 mm. diametro. *Calyx* obsoletus. *Corollae* intra glabrae tubus 8 mm. longus, unilateraliter infra medium fissus, lobi 4, suberecti, apice incurvi, subcucullati, acuti, 5 mm. longi. *Stamina* inclusa, paulo supra loborum bases inserta, filamentis 2 mm. longis glabris, antheris 1 mm. longis.
Chiengmai, Doi Sootep, 660 m., *Kerr*, 947.

Loranthus securidacoides, Warb. Pl. Nov. Herb. Hort. Then. t. 81 —*vide* sub *Olax scandens*.

Elytranthe affinis, *Craib*, sp. n., ab *E. evenia*, Engler, calyce majore, corollae lobis reflexis, ab *E. hypoglauca*, Craib, foliorum nervis pagina utraque magis prominulis, receptaculo multo breviore recedit.
Folia lanceolata vel ovato-lanceolata, apice obtusa, basi in petiolum brevem attenuata, 3·3–10 cm. longa, 1·3–4·2 cm. lata, coriacea, utrinque glabra, supra pallide viridia, subtus subglauca, nervis lateralibus utrinque circiter 7 intra marginem arcuatis pagina utraque, superiore magis, prominulis. *Pedunculi* perbreves, axillares, solitarii vel gemini, 2-flori ; pedicelli vix 3 mm. longi, ut in pedunculis glabri ; bracteae cum bracteolis duobus parvae, persistentes. *Receptaculum* tubulosum, 1·5 mm. longum, vix 1 mm. diametro, glabrum. *Calyx* conspicuus, subtruncatus vel irregulariter lobatus, 0·5 mm. altus, glaber. *Corollae* rubrae (ex *Kerr*) tubus 2·1 cm. longus, superne sensim dilatatus, apice 3 mm. diametro, lobi 6, subaequales, medio reflexi, lineari-spathulati, acuti, parte reflexa 7 mm. longa. *Stamina* exserta, filamentis glabris 4·5 mm.

longis. *Stylus* glaber, stamina paulo superans, stigmate parvo capitato. *Fructus* aurantiacus (ex *Kerr*), globosus, circiter 1 cm. diametro, calycem stylique partem basalem persistentes gerens.

Chiengmai, Doi Sootep, in evergreen jungle, 1140 m., *Kerr*, 1318.

Elytranthe ampullacea, *Engler*. *Loranthus ampullaceus*, Roxb.—F.B.I., v. p. 220 ; For. Fl. Burma, ii. p. 316.

Chiengmai, Doi Sootep, 660 m., *Kerr*, 1712.

Distr. Indo-China, Malay Peninsula.

Viscum articulatum, *Wall.*—F.B.I., v. p. 226 ; For. Fl. Burma, ii. p. 325 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 121.

Chiengmai, Doi Sootep, 420m., *Kerr*, 1301—parasitic on *Loranthus*.

Distr. S.E. Asia.

Kerr's plant is probably the form *fragile* (Wall. pro sp.).

Viscum sp. near *V. orientale*, Willd.

Chiengmai, 300 m., *Kerr*, 818.

Included in *V. orientale* only in sensu lato, for under that species there are included several well marked forms.

Ginalloa siamica, *Craib*, sp. n., a *G. Helferi*, Kurz, foliorum forma, spicis longioribus crassioribus recedit.

Ramuli validi, basi incrassato-vaginati, glabri, cortice plerumque viridescente irregulariter fisso obtecti. *Folia* elliptica, oblongo-elliptica vel oblongo-obovata, apice rotundata, basi cuneata vel late cuneata, 2·5–6 cm. longa, 1·35 cm. lata, coriacea, glabra, e basi 5-nervia, nervis utrinque conspicuis, petiolo brevi suffulta. *Spicae* ad 8·5 cm. longae, rachi vix 2 mm. diametro.

Chiengmai, Doi Sootep, 420 m., *Kerr*, 1300—on *Pentacme siamensis*.

Santalaceae.

Henslowia sessilis, *Craib*, sp. n., ab *H. heterantha*, Hook. f. et Thoms. et *H. frutescente*, Benth., fructu sessili recedit.

Ramuli glabri, cortice brunneo obtecti, ad 2·5 mm. diametro ; ramorum cortex cinereo-brunneus, irregulariter longitudinaliter fissus. *Folia* ovato-lanceolata, apice obtusa, basi in petiolum brevem attenuata, 2·5–7·5 cm. longa, 1·3–3·3 cm. lata, coriacea, utrinque glabra, e basi trinervata, pedatim 5-nervata, nervis utrinque conspicuis, nervis transversis plerumque subconspicuis. *Flores* ♂ ♀ axillares, fasciculati, petiolis subaequales. *Fructus* vix maturus, basi bracteolis parvis ciliatis instructus.

Chiengmai, Doi Sootep, 1050 m., *Kerr*, 1768.

Scleropyron Wallichianum, *Arnott*—F.B.I., v. p. 234 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 122.

Doi Saket, Ban Sun Pah Suk, in deciduous jungle, *Kerr*, 1026 ; Chiengmai, Doi Sootep, 330–660 m., *Kerr*, 1701, 1711.

Distr. S. India, Ceylon, Burma.

Lao name, Má Krău Nam.

Euphorbiaceae.

Euphorbia Kerrii, *Craib*, sp. n., ab *E. sessiliflora*, Roxb., ovario longe stipitato recedit.

Rhizoma perenne, carnosum, ad 9 cm. longum, 4 cm. diametro. *Caules* solitarii vel raro 3, 16–25 cm. alti, 5 mm. diametro,

altius sulcati, glabri. *Folia* reducta, anguste elliptica, acuta, dorso carinata, 3 mm. longa, vix 2 mm. lata, glabra, petiolo brevi tereti suffulta; stipulae minutae. *Cymae* sessiles; bracteae ovato-lanceolatae, acuminatae, 5 mm. longae, 2·5 mm. latae, involucrum duplo excedentes, dorso medio carinatae, glabrae. *Involucrum* circiter 5 mm. diametro, glabrum, e glandulis 5 et lobis 5 elliptico-obovatis fimbriatis; glandulae contiguae, transverse oblongae, 1 mm. longae, 2 mm. latae, integrae. *Ovarium* glabrum, acute triangulare, pedicello circiter 8 mm. longo glabro exsertum, recurvum. *Stylus* 0·5 mm. longus; rami ad 1·5 mm. longi, glabri. *Capsula* 6 mm. alta, circiter 8 mm. diametro, glabra; semina subglobosa, ad 3 mm. diametro, albida, minutius arcte pustulata.

Near Lakon, in deciduous bamboo jungle, 300 m., *Kerr*, 974.

Lao name, Chĭdĭ Dooan.

According to Dr. Kerr the root is used by the natives for poisoning fish.

Euphorbia Lacei, *Craib*, sp. n., ab *E. antiquorum*, Linn., spinis brevioribus, involucris subsessilibus vel breviter pedunculatis recedit.

Arbor ad 3·5 m. alta (ex *Kerr*); ramuli floriferi 17–25 cm. longi, sicco ad 2·5 cm. diametro, succulenti, glabri; anguli 3, alaeformes, distanter dentati, dentibns ad 5 cm. distantibus; spinae geminae, parvae, divaricatae, fusco-brunneae. *Bracteae* late ellipticae, 3·5 mm. longae, 3·5 mm. latae. *Involucra* solitaria, subsessilia vel breviter pedunculata, vix 1 cm. diametro, glabra, e glandulis 5 et lobis 5 fimbriatis circiter 2 mm. longis et latis glabris constituta; glandulae transverse oblongae, 4·25 mm. latae, 2 mm. longae, glabrae.

Lakon, Hooey Meh Tan, 600 m., *Kerr*, 1018.

Distr. Burma, Hantawaddy, Yoma Reserve, *Lace*, 2920.

The lateral involucres of the cyme which are not developed in any of the above specimens will probably bear the female as no trace of an ovary is found in the developed terminal involucres.

Euphorbia serrulata, *Reinw.*

Chiengmai, among grass in open jungle on Doi Kum, 420 m., *Kerr*, 1656.

Distr. Formosa, Macao, Philippines, Tonkin, Malay Archipelago.

Euphorbia thymifolia, *Burm.*—F.B.I., v. p 252.

Chiengmai, 300 m., *Kerr*, 1475—"a garden weed."

Distr. S.E. Asia.

Euphorbia congenera, Williams, Bull. Herb. Boiss., v. (1905) p. 32, an Bl.?

The specimens quoted by Williams l.c. under this species agree rather with the description of *E. reniformis*, Bl., but in the absence of authentic material the writer cannot refer them definitely to either species.

Bridelia affinis, *Craib*, sp. n., *B. pubescenti*, Kurz, habitu similis sed inflorescentia fere glabra facile distinguenda.

Arbuscula ad 6 m. alta (ex *Kerr*); ramuli primo parce ferrugineo-pilosi, mox glabri, cortice rubro-brunneo parce lenticellato obtecti. *Folia* obovato-elliptica vel oblanceolata, apice rotundata vel plerumque breviter obtuse acuminata, basi obtusa, 5–15 cm. longa, 2–6 cm. lata, chartacea, supra costa nervisque praecipue pilosula, subtus parce molliter pilosa, nervis lateralibus utrinque

10–14 ad marginem excurrentibus supra conspicuis subtus cum nervis transversis prominentibus; petioli ad 7 mm. longi, teretes, breviter pilosi; stipulae deciduae, circiter 5 mm. longae, 1 mm. latae. *Inflorescentia* axillaris, sessilis. *Floris* ♀ calycis segmenta triangularia, acuta, 1·5 mm. longa, 1·5 mm. lata, quam petalis circiter duplo longiora. *Ovarium* glabrum, 0·75 mm. altum; styli duo, 1 mm. longi. *Floris* ♂ calyx calyci ♀ similis. *Stamina* 5. *Ovarii* rudimentum parvum.

Chiengmai, in evergreen jungle on Doi Sootep, 600 m., *Kerr*, 809.

Bridelia retusa, *Spr.*—F.B.I., v. p. 268; For. Fl. Burma, ii. p. 368.

Chiengmai, in eng jungle on Doi Sootep, 330 m., *Kerr*, 798.

Distr. India, Burma.

Bridelia stipularis, *Blume*—F.B.I., v. p. 270, p. p.; For. Fl. Burma, ii. p. 369; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 122.

Chiengmai, Doi Sootep, 330 m., *Kerr*, 1460; Phre, 156–240 m., *Luang Vanpruk*, 128.

Distr. S.E. Asia, (Trop. Africa ?).

Bridelia tomentosa, *Blume*—F.B.I., v. p. 271; For. Fl. Burma, ii. p. 367.

Chiengmai, in open jungle near a village, *Kerr*, 915.

Distr. N. India to China and southwards to Australia.

Sauropus albicans, *Blume*—F.B.I., v. p. 332; For. Fl. Burma, ii. p. 349.

Chiengmai, 300 m., on waste ground, *Kerr*, 760.

Distr. S.E. Asia.

Sauropus brevipes, *Muell.-Arg.*—F.B.I., v. p. 335.

Chiengmai, Doi Sootep, in deciduous jungle, 330 m., *Kerr*, 1339.

Distr. Burma.

Sauropus (Ceratogynum) rigidus, *Craib*, sp. n., a *S. concinno*, Coll. et Hemsl., floribus ♂ fere duplo majoribus eorum sepalis latioribus apice retusis vix emarginatis foliorumque forma recedit.

Suffrutex ad 6 dm. altus (ex *Kerr*), omnino glaber; rami ad 3 mm. diametro, cortice striato. *Folia* subelliptica, ovato-lanceolata vel lanceolata, mucronata, basi interdum inaequalia, obtusa vel subrotundata, 1·2–4·1 cm. longa, 0·7–1·7 cm. lata, rigida, nervis lateralibus utrinque 4–5 pagina utraque conspicuis, margine recurvo; petioli 2–3 mm. longi; stipulae parvae, rigidae. *Flores* ♂ in racemos breves axillares conspicue bracteatos dispositi, pedicellis fere 5 mm. longis suffulti. *Sepala* 6, apice retusa, 2 mm. longa, vix 2 mm. lata. *Discus staminaque* generis. *Flores* ♀ solitarii, pedicellis 3 mm. longis suffulti. *Sepala* 6, subrotundata, breviter acuminata, exteriora 3 mm. longa, 3·5 mm. lata, quam interioribus paulo majora. *Ovarium* 1·5 mm. altum; styli 3, subpatuli, bifidi.

Chiengmai, in deciduous jungle on Doi Sootep, 300–1560 m., *Kerr*, 651, 1825.

Sauropus similis, *Craib*, sp. n., a *S. brevipede*, Muell.-Arg., foliorum forma, a *S. quadrangulari*, Muell.-Arg., ramulis foliisque vix glabris, florium ♂ perianthii segmentis latioribus recedit.

Suffrutex sarmentosus, vix 1 m. altus (ex *Kerr*); rami quadrangulares, virides, cito glabri; ramuli quadrangulares, angulis

setulis rigidis instructi. *Folia* ovato-lanceolata vel lanceolata, apice acutiuscula, mucronata, basi late cuneata vel subrotundata, 1–3 cm. longa, 0·7–1·4 cm. lata, chartacea, supra costa marginesque versus setulosa, subtus costa nervisque setulosa, nervis lateralibus utrinque 4–5 intra marginem arcuatis supra plerumque conspicuis subtus prominentibus, breviter petiolata ; stipulae anguste deltoideae, acutae, ad 1 mm. longae, dorso carinatae. *Flos* ♂ circiter 2 mm. diametro. *Discus staminaque* generis. *Flos* ♀ 4·5 mm. diametro. *Sepala* 6, subrhomboidea, apice rotundata, apiculata, 2·25 mm. lata. *Styli* 0·5 mm. longi.

Chiengmai, in evergreen jungle on Doi Sootep, 720 m., *Kerr*, 1788 ; Wang Djao, *Hosseus*, 48.

Glochidion assamicum, *Hook. f.*, F.B.I., v. p. 319.

Meh Ping, Chieng Dao, 420 m., *Kerr*, 1056.

Distr. India, Burma, Assam.

Glochidion coccineum, *Muell.-Arg.*—F.B.I., v. p. 308 ; For. Fl. Burma, ii. p. 342.

Chiengmai, Doi Sootep, in deciduous jungle, 300–450 m., *Kerr*, 739.

Distr. Burma.

Glochidion Daltoni, *Kurz*, For. Fl. Burma, ii. p. 344 ; F.B.I., v. p. 320.

Lakon, Hooey Meh Tan, 420 m., *Kerr*, 1016 ; Chiengmai, Doi Sootep, 660–1000 m., *Kerr*, (? 1281), 1723, *Hosseus*, 431.

Distr. Sikkim, Yunnan, Burma.

Lao name, M'Kai (ex *Kerr*).

Glochidion Kerrii, *Craib*, sp. n., ab affini *G. villicauli*, Hook. f., stylo longiore tenuiore altius bifido recedit.

Arbuscula circiter 6 m. alta (ex *Kerr*) ; ramuli juventute densius albido vel ferrugineo-hirsuti, mox glabri ; rami cortice cinereo vel rubro-cinereo lenticellato obtecti. *Folia* lanceolata vel ovato-lanceolata, apice acuta, basi parum inaequalia, obtusa vel rotundata, 1–6·5 cm. longa, 0·8–2·8 cm. lata, rigide chartacea, supra costa parce hirsuta, cetera subglabra, subtus, costa nervisque praecipue, pilosa, nervis lateralibus utrinque 4–5 supra conspicuis vel maturis leviter impressis subtus prominentibus nervis transversis paucis subtus subprominulis ; petioli breves, indumento ut in ramulis. *Flores* ♂ pedicellis 8 mm. longis pilis paucis patulis instructis suffulti. *Sepala* 3 exteriora elliptica, apice obtusa, 1·75 mm. longa, 1 mm. lata, indumento dorso ut in pedicellis, interiora late oblanceolata, 1·75 mm. longa, 0·75 mm. lata, fere glabra. *Stamina* 3, connata, columna brevissima, connectivis productis. *Flores* ♀ subsessiles. *Stylus* ad 2·5 mm. longus, apice trilobatus, lobis vix 1 mm. longis, pilis longiusculis patulis albidis densius instructus.

Chiengmai, Doi Sootep, 720 m., *Kerr*, 1070.

Since the above description was drawn up there has been received a further collection of evidently the same species from evergreen jungle at 1260 m. elevation on Doi Sootep (*Kerr*, 1514).

Glochidion velutinum, *Wight*—F.B.I., v. p. 322 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 124. *Phyllanthus nepalensis*, Muell.-Arg.—For. Fl. Burma, ii. p. 344.

Chiengmai, Doi Sootep, 1650 m., *Kerr*, 675, 1321, *Hosseus*, 501 (Herb. Kew ! et Copenhagen !).

Distr. India, Burma, Assam.

Glochidion sp.
Ban Djam, 300 m., *Hosseus*, 452 (♂ only).

Phyllanthus columnaris, *Muell.-Arg.*—F.B.I., v. p. 291 ; For. Fl. Burma, ii. p. 347.
Chiengmai, in mixed jungle on Doi Sootep, 360 m., *Kerr*, 1402 ; Phre, 120 m., *Luang Vanpruk*, 180.
Distr. Burma.
Lao name, Kow San (ex *Luang Vanpruk*).

Phyllanthus Emblica, *Linn.*—F.B.I., v. p. 289 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 123.
Chiengmai, Doi Sootep, 300–750 m., *Kerr*, 551.
Distr. S.E. Asia.
Lao name, Ma Kam Paum.

Phyllanthus Niruri, *Linn.*—F.B.I., v. p. 298.
Chiengmai, 300 m., *Kerr*, 1444—"a garden weed."
Distr. Tropics except Australia.

Phyllanthus reticulatus, *Poir.*—F.B.I., v. p. 288.
Chiengmai, on rocks by a stream on Doi Sootep, 540 m., *Kerr*, 1131 ; Bangkok, *Zimmermann*, 132.
Distr. E. Asia, Tropical Africa.

Phyllanthus simplex, *Retz.*—F.B.I., v. p. 295.
Chiengmai, in open spots in mixed jungle on Doi Sootep, 300–450 m., *Kerr*, 682.
Distr. E. Asia.

Phyllanthus (Reidia) sootepensis, *Craib*, sp. n., a *P. pulchro*, Muell.-Arg., ramis glabris recedit.
Fruticulus ad 1·2 m. altus (ex *Kerr*), omnino glaber ; rami teretes, ad 3·5 mm. diametro, cortice rubro vel rubro-brunneo irregulariter longitudinaliter fisso obtecti ; ramuli simplices, alterni, teretes, graciles, ad 20 cm. longi. *Folia* plus minusve elliptica, apiculata, basi obtusa, inaequalia, 5–13 mm. longa, 3–7 mm. lata, supra fusca, subtus pallida, rigida, nervis lateralibus utrinque 4–5 intra marginem arcuatis pagina neutra conspicuis ; petioli breves ; stipulae circiter 3 mm. longae. *Flores* ♂ pedicellis 5–6 mm. longis suffulti. *Sepala* 4, subrhomboidea, irregulariter serrata, 1·5 mm. longa, 1·5 mm. lata. *Disci* glandulae 4, sepalis alternae, transverse ellipticae. *Stamina* 4, filamentis in columnam brevem apiculatam (ob ovarii rudimentum ?) connatis. *Flores* ♀ pedicellis ad 7 mm. longis suffulti. *Sepala* 6, anguste obovata, apice rotundata, 1·25 mm. longa, 0·75 mm. lata, glabra. *Disci* glandulae basi plus minusve connatae, ovario dimidio breviores. *Ovarium* 0·75 mm. altum ; styli suberecti, bifidi.
Chiengmai, by a stream on Doi Sootep, 480 m., *Kerr*, 657.

Phyllanthus sp. n. ?
Angkor, *Godefroy-Lebeuf*, 682.

* **Phyllanthodendron album**, *Craib et Hutchinson*, Kew Bull. 1910 p. 279.
Chiengmai, on old clearings on Doi Sootep, 720–810 m., *Kerr*, 521, 566.

Phyllanthodendron mirabile, *Hemsl.*, Hook. Ic. Pl., t. 2563-64. *Phyllanthus mirabilis*, Muell.-Arg.

Bangkok, *Schomburgk.*

The leaf specimens referred to by Williams, Bull. Herb. Boiss., v. (1905) p. 50 evidently do not belong to this species or in fact to *Euphorbiaceae.*

* Phyllanthodendron roseum, *Craib et Hutchinson*, Kew Bull. 1910 p. 23 ; Hook. Ic. Pl., t. 2935.

Chiengmai, in evergreen jungle by a stream on Doi Sootep, 730 m., *Kerr*, 697.

var. siamensis, *Craib.* *Uranthera siamensis*, Pax et K. Hoffm., Engl. Pflanzenr., Euphorb.—Cluytieae, p. 95.

Chiengmai, Doi Sootep, 1600 m., *Hosseus*, 505.

As noted in Hook. Ic. Pl., l.c. Pax did not feel justified in retaining Hemsley's genus *Phyllanthodendron* and followed Mueller in treating Schomburgk's plant as a *Phyllanthus.* But there is nothing to separate generically the plant collected by Hosseus and made the type of the new genus *Uranthera* by Pax and Hoffmann from Schomburgk's plant. In floral detail Hosseus 505 agrees with the type of *Phyllanthodendron roseum* except that the ovary is glabrous. The petaloid disk glands have been regarded by Pax and Hoffmann as true petals and they have therefore regarded the plant as belonging to the tribe *Cluytieae.*

Fluggea microcarpa, *Blume*—F.B.I., v. p. 238 ; Williams, Bull. Herb. Boiss., v. (1905) p. 29 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 124. *Cicca obovata*, Kurz, For. Fl. Burma, ii. p. 354.

Chiengmai, in evergreen jungle on Doi Sootep, 900 m., *Kerr*, 1116 ; between Kampeng and Wang Djao, *Hosseus*, 22 ; Meh Ping, Muang Hawt, 240 m., *Kerr*, 2015.

Distr. N. India eastwards to China and southwards to Australia, Trop. Africa.

Breynia glauca, *Craib*, sp. n., a *B. fruticosa*, Hook. f., cui affinis, stylis erectis recedit.

Fruticulus omnino glaber ; rami primo compressi, mox teretes, cortice rubro-brunneo striato obtecti ; ramuli teretes, plerumque flexuosi. *Folia* ovato-lanceolata, apice mucronata, basi obtusa vel subrotundata, 2·8–5·5 cm. longa, 1·5–2·7 cm. lata, coriacea, supra sicco brunnea, subtus glauca parceque punctata, nervis lateralibus utrinque 5–6 supra conspicuis vel subobscuris subtus subprominulis intra marginem arcuatis, margine recurvo ; petioli graciles, circiter 3 mm. longi ; stipulae parvae, rigidae, plerumque deciduae. *Floris* ♂ pedicelli 4 mm. longi. *Calyx* turbinatus, 2 mm. longus, lobis inflexis. *Stamina* 3, filamentis in columnam connatis, connectivo breviter producto. *Flores* ♀ breviter pedicellati. *Calycis* tubus 2 mm. longus, 3-angulatus, lobi 6, interiores 1 mm. longi, quam exterioribus paulo majores. *Styli* 3, erecti, apice bifidi, 0·75 mm. alti, ovario 1 mm. alto superne carnoso. *Bacca* depresso-globosa, 5 mm. alta, 8 mm. diametro.

Chiengmai, Doi Sootep, by side of a stream, 450 m., *Kerr*, 864.

Since the above description was drawn up another collection of evidently the same species has been received (*Kerr*, 1126 from Doi Sootep, 840 m.) which differs from the type in the slightly larger

leaves which are not so closely set on the branchlets and the much poorer inflorescence.

Breynia rhamnoides, *Muell.-Arg.*—F.B.I., v. p. 330; For. Fl. Burma, ii. p. 350.

Bangkok, *Zimmermann*, 55.

Distr. S.E. Asia.

Putranjiva Roxburghii, *Wall.*—F.B.I., v. p. 336; For. Fl. Burma, ii. p. 366.

Near Chiengmai, Meh Hia, 330 m., *Kerr*, 1408; Lower Siam, *Witt*, 36.

Distr. India, Burma, Assam.

According to *Witt* a medicine for rheumatism is made out of the leaves and fruit.

Bischofia javanica, *Blume*—F.B.I., v. p. 345; For. Fl. Burma, ii. p. 355.

Muang Prow, Ban Long Kaut, by streams, 600 m., *Kerr*, 1028 ♀; Meh Ping, Chieng Dao, by streams, 390 m., *Kerr*, 1028a ♂.

Distr. S.E. Asia (except Ceylon), Pacific Is.

Daphniphyllum laurinum, *Baill.*—F.B.I., v. p. 353.

Chiengmai, in evergreen jungle on Doi Sootep, 1200–1260 m., *Kerr*, 1824 ♂, 1816 ♀.

Distr. Malaya.

Baccaurea sapida, *Muell.-Arg.*—F.B.I., v. p. 371; For. Fl. Burma, ii. p. 356; Williams, Bull. Herb. Boiss., v. (1905) p. 30, pro parte.

Chiengmai, Doi Sootep, 660 m., *Kerr*, 1095; mountains between Lampoon and Lakon, 600 m., *Kerr*, 968; Phre, 240 m., *Luang Vanpruk*, 231; Bangkok, *Schomburgk*, 110, ? *Zimmermann*, 88.

Distr. S.E. Asia.

Lao name, Mă Fai (ex *Kerr*), Ma Foi (Pu) (ex *Luang Vanpruk*).

Aporosa Roxburghii, *Baill.*—F.B.I., v. p. 347; For. Fl. Burma, ii. p. 362.

Chiengmai, Doi Sootep, 660 m., *Kerr*, 1689.

Distr. Sikkim Himalayas, Burma, Assam.

Aporosa villosa, *Baill.*—F.B.I., v. p. 345; For. Fl. Burma, ii. p. 361; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 124.

Chiengmai, in deciduous jungle on lower slopes of Doi Sootep, 300–600 m., *Kerr*, 552 ♀, 552a ♂.

Distr. Burma, Cochinchina.

Aporosa Wallichii, *Hook. f.*, F.B.I., v. p. 350.

Chiengmai, in evergreen jungle on Doi Sootep, 750 m., *Kerr*, 1681 ♀, on edge of old clearing on Doi Sootep, 810 m., *Kerr*. 520 ♂.

Distr. Bengal, Assam, Burma.

Aporosa sp. n. ?

Chiengmai, in deciduous jungle on Doi Sootep, 750 m., *Kerr*, 958 —female specimens only collected.

Antidesma Collettii, *Craib*, sp. n., ab affini *A. cuspidato*, Muell.-Arg., ovarii rudimento columnari haud globoso, floris ♀ disco glabro fructu majore pedicello longiore crassiore recedit.

Ramuli primo parce ferrugineo-pilosi, mox glabri, cortice rubro-brunneo lenticellato obtecti. *Folia* elliptico-oblanceolata, oblonga

vel raro elliptico-lanceolata, apice plerumque acuminata, acuta, basi cuneata vel rotundata, 7·5–22·5 cm. longa, 2–7 cm. lata, subcoriacea, glabra, nervis lateralibus utrinque 7–9 intra marginem arcuatis supra subprominulis subtus prominulis; petioli ad 1·3 cm. longi. *Spicae* ♂ simplices vel paniculatae, ad 15 cm. longae, breviter pedunculatae; rachis tomentella, plus minusve glabrescens; bracteae lanceolatae, acutae, circiter 1 mm. longae. *Calyx* breviter irregulariter lobatus. *Stamina* 3, filamentis 2·5 mm. longis glabris. *Ovarii* rudimentum columnare, vix 1 mm. altum, parce pubescens. *Racemi* ♀ spiciformes, 7–11 cm. longi, breviter pedunculati; pedicelli circiter 1 mm. longi, pilulosi; bracteae pedicellis dimidio breviores. *Calyx* 1 mm. longus, 1 mm. diametro, breviter lobatus, extra fere glaber, intra subvillosus. *Discus* breviter cupularis, glaber. *Ovarium* glabrum, circiter 1·5 mm. altum; stigmata brevia, terminalia. *Fructus* pedicello 4 mm. longo suffultus, 6–7 mm. longus, 5–6 mm. latus, circiter 4 mm. crassus, rubro-brunneus, lenticellatus.—*A. cuspidatum*, Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 124 *vix* Muell.-Arg.

Burma, Shan Hills, 1500 m., *Collett*, 636 ♂.

Chiengmai, by streams in evergreen jungle on Doi Sootep, 660–900 m., *Kerr*, 1115 (♂), 1117 (♀), 1253 (fruit).

The plant described above is probably more nearly related to *A. Bunius*, Spreng., than to *A. cuspidatum*, Muell.-Arg. From the former it differs in its larger leaves and by the ovary which in *A. Bunius* is long exserted but in *A. Collettii* is included in the calyx to about the middle. *A. Bunius* and *A. Collettii* have very similar male flowers and inflorescences.

Antidesma diandrum, *Roth.*—F.B.I., v. p. 361 : For. Fl. Burma, ii. p. 360; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 125.

Chiengmai, in deciduous jungle on lower slopes of Doi Sootep, 300–600 m., *Kerr*, 608, 608a.

Distr. India, Burma, Assam.

Antidesma Kerrii, *Craib*, sp. n., *A. nigrescenti*, Tul., similis sed ovario haud glabro facile distinguenda.

Arbuscula ad 7·5 m. alta (ex *Kerr*); ramuli juventute densius molliter pubescentes, pilis plus minusve persistentibus. *Folia* oblonga, oblongo-elliptica vel elliptico-oblanceolata, apice acuminata, acuta, basi obtusa vel subrotundata, 4–12 cm. longa, 1·5–4·3 cm. lata, chartacea, utrinque costa nervisque sed costa densius pubescentia, nervis lateralibus utrinque 7–8 intra marginem arcuatis supra conspicuis subtus prominentibus nervis transversis paucis subtus prominulis; petioli ad 6 mm. longi, indumento ut in ramulis; stipulae lineares, ad 3 mm. longae, dorso pubescentes. *Racemi* ♂ solitarii vel parum paniculati, vix 3 cm. longi, laxi; pedicelli 0·5 mm. longi, bracteis pedicellis subaequalibus. *Sepala* 4, 0·5 mm. longa, 0·75 mm. lata. *Discus* cum ovarii rudimento parvo glaber. *Stamina* 4, filamentis circiter 1 mm. longis glabris. *Spicae* ♀ solitariae, terminales, densiusculae; bracteae calycem subaequantes. *Calycis* circiter 0·5 mm. longi segmenta 4, dentata. *Discus* annularis, carnosus, glaber. *Ovarium* longe exsertum, oblique ellipsoideum, 1 mm. altum, parce appresse pilulosum.

Chiengmai, in thick evergreen jungle on Doi Sootep, 1200 m., *Kerr*, 618 ♂, 618a ♀.

Antidesma sootepensis, *Craib*, sp. n., *A. Moritzii*, Muell.-Arg., peraffinis sed stipulis omnibus deciduis, foliis minoribus, spicis ♂ densis, calyce filamentis antheris ovariique rudimento longioribus, bracteis ♀ minoribus, calyce breviore, ovario minore magis globoso haud tam exserto differt.

Suffrutex 3–3·5 m. altus (ex *Kerr*); ramuli primo ferrugineo-tomentelli, mox glabri vel subglabri, cortice rubro-brunneo parce lenticellato obtecti. *Folia* plerumque oblonga vel oblongo-oblanceolata, apice acuminata, acuta, rarissime obtusa, basi cuneata, 3–12·2 cm. longa, 1–2·9 cm. lata, chartacea, utrinque costa nervisque pubescentia et cetera subtus parcissime pubescentia, margine ciliata, nervis lateralibus utrinque 6–7 intra marginem arcuatis supra conspicuis subtus prominentibus nervis transversis supra conspicuis; petioli 2–4 mm. longi, indumento ramulorum. *Spicae* ♂ terminales, paniculatae, ad 10 cm. longae, densae, pedunculo circiter 1 cm. longo suffultae, pedunculo ut in rachi tomentello. *Calyx* 4-lobatus, circiter 0·5 mm. altus, extra pubescens. *Discus* glaber; ovarii rudimentum columnare, parcissime pubescens. *Stamina* 4, filamentis fere 1·5 mm. longis glabris. *Racemi* ♀ simplices, ad 5 cm. longi, pedunculo communi circiter 1 cm. longo suffulti; pedicelli validi, 0·5 mm. longi, pilulosi; bracteae parvae. *Calyx* ad 0·75 mm. longus, 4-lobatus, utrinque pubescens. *Discus* cupularis, subglaber. *Ovarium* anguste ellipsoideum, 0·75 mm. altum, glabrum.

Chiengmai, in deciduous jungle on Doi Sootep, 720–750 m., *Kerr*, 676♂, 676a♀.

In describing the above species, which is very closely allied to *A. Moritzii*, I have taken into consideration *A. Moritzii* only as originally described by Mueller.

Jatropha gossypifolia, *Linn.*—F.B.I., v. p. 383.

Chiengmai, 300 m., *Kerr*, 712—"often abundant on waste ground."

Distr. Tropics.

Kerr's plant belongs to the variety *elegans*, Muell.-Arg.—Pax, Engl. Pflanzenr., Euphorb.-Jatroph., p. 26. Pax l.c. p. 50 refers Zimmermann's 27 and 145 to *J. pandurifolia*, Andr., var. *latifolia*, Pax, but it would probably be equally right to follow Williams and refer them to *J. hastata*, Jacq.

Croton Cumingii, *Muell.-Arg.*

Lem Tong Lan, *Murton*, 122; Bangkok Palace Gardens, cultivated, *Murton*, 8.

Distr. Philippines, Malay Peninsula.

Croton Hutchinsonianus, *Hosseus.*

Wang Djao, *Hosseus*, 163 (Herb. Kew! Hoss.! et Copenhagen!); Phre, 120–180 m., *Luang Vanpruk*, 140.

Croton laevifolius, *Blume*, var.?

Chiengmai, Doi Sootep, in evergreen jungle, 660 m., *Kerr*, 1074.

There is no type of this species in Herb. Kew. The Siam plant differs from the Khasia specimens, referred here by Mueller, in the indumentum which, though of a similar nature, is more persistent and more pronounced on the inflorescence.

Croton oblongifolius, *Roxb.*—F.B.I., v. p. 386 ; For. Fl. Burma, ii. p. 373 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 125, p.p.

Banks of streams at foot of Doi Sootep, 330 m., *Kerr*, 528 ; Chiengmai Plain, in scrub jungle, 300 m., *Kerr*, 528a, 528b ; Phre, 156–240 m., *Luang Vanpruk*, 125.

Croton robustus, *Kurz*, For. Fl. Burma, ii. p. 372 ; F.B.I., v. p. 387 ?

Chiengmai, Doi Sootep, 660–800 m., *Hosseus*, 296 (Herb. Kew! et Copenhagen!), *Kerr*, 943, 1778.

Distr. Burma.

Trigonostemon Murtoni, *Craib*, sp. n., a *T. villoso*, Hook. f., foliis supra glabris subtus costa nervisque strigosis recedit.

Ramuli primo hirsuti, demum glabri, cortice brunneo obtecti. *Folia* oblanceolata vel oblongo-oblanceolata, apice acuminata, obtusa, basi obtusa vel truncata, 3·5–14 cm. longa, 1·1–4 cm. lata, supra glabra, subtus juventute costa nervisque strigosa, rigide chartacea, margine obscure denticulata, nervis lateralibus utrinque ad 13 intra marginem arcuatis supra conspicuis subtus prominentibus ; petioli ad 7 mm. longi, supra canaliculati, plus minusve glabrescentes. *Racemi* axillares, 2–3 cm. longi, pedunculo communi ad 3 cm. longo suffulti ; bracteae foliaceae, 1 cm. longae, 2 mm. latae, supra costa tantum, subtus parcius strigillosae. *Flos* ♂. *Sepala* 5, lineari-lanceolata, acuta, subaequalia, circiter 3 mm. longa, 1 mm. lata, extra strigosa, intra glabra. *Petala* 5, oblongo-obovata, subaequalia, ad 3·5 mm. longa, 1·75 mm. lata, parce setoso-ciliata. *Disci* glandulae 5, parvae, glabrae. *Filamenta*, nisi parte apicali brevissima libera, in columnam 0·75 mm. altam connata ; antherae 3. *Flos* ♀. *Sepala* 5, subaequalia, lanceolata, acutiuscula, extra pubescentia, intra glabra. *Petala* 5, inaequalia, elliptica vel obovato-oblonga, parcissime setosa. *Ovarium* hirsutum ; styli circiter ad medium bifidi.

Koh Klone, *Murton*, 18.

The description of the female flower is drawn up from sketches by Sir J. D. Hooker on the sheet.

Trigonostemon reidioides, *Craib*, comb. nov. *Baliospermum reidioides*, Kurz—For. Fl. Burma, ii. p. 411 ; Williams, Bull. Herb. Boiss., v. (1905) p. 32.

Kanburi, *Teysmann*, 5981 H.B. ex Hb. Kurz.

The date 1878 quoted by Williams l.c. is the date of receipt of the specimen at Kew from Calcutta and not the date of collection of the specimen.

Ostodes Kerrii, *Craib*, sp. n., ab *O. paniculato*, Blume, foliis subtus in costarum axillis glabris, seminibus minoribus brunneis haud pictis, ab *O. thyrsantho*, Pax, inflorescentiae rachi glabra, pedicellis distincte articulatis, capsula rostrata differt.

Arbor dioica, 6–9 m. alta (ex *Kerr*) ; ramuli validi, primo parce appresse pilulosi, mox glabri. *Folia* ovato-lanceolata, elliptico-lanceolata vel lanceolata, apice acuminata, obtusiuscula, basi obtusa, 9–32·5 cm. longa, 3–11·8 cm. lata, chartacea, margine glanduloso-serrulata, supra glabra, subtus costa nervisque pilis brevibus perpaucis deciduis instructa, cetera glabra, nervis lateralibus utrinque 8–12 intra marginem arcuatis supra conspicuis subtus

prominulis, basi biglandulosa, petiolis 1·3–2·5 cm. longis glabris vel subglabris suffulta. *Flores* ♂ in paniculas axillares dispositi; pedunculi communes 2–5·5 cm. longi; rachis 6–14 cm. longa, glabra; ramuli laterales ad 10, 3 cm. longi, circiter 5-flori; pedicelli ad 5 mm. longi, infra medium articulati; bracteae minutae. *Calyx* 5-partitus, segmentis inaequalibus ad 6·5 mm. longis, exterioribus extra parce pilulosis. *Petala* 5, alba, 7 mm. longa, 4·5 mm. lata, intus inferne pubescentia. *Disci* glandulae 1 mm. altae, 1·5 mm. latae, carnosae, subglabrae. *Stamina* circiter 30, filamentis inferne villosis. *Flores* ♀ in racemos plerumque ex axillis veteribus oriundos dispositi; racemi ad 15 cm. longi, pauciflori, glabri, pedunculo brevi suffulti; pedicelli 1 cm. vix attingentes, medio articulati; bracteae parvae. *Calycis* segmenta ad 9 mm. longa, 7 mm. lata. *Petala* subaequalia, obovata vel subrotundata, ad 9 mm. longa, 8 mm. lata, intus inferne hirsutula. *Ovarium* dense albido-setosum, 5 mm. altum, 5 mm. diametro; styli 3, validi, 6 mm. longi, dorso hirsuti. *Capsula* vix 2·5 cm. alta, dura, ferrugineo-tomentella parceque setosa. *Semina* dorso carinata, circiter 1·2 mm. longa et lata, 9 mm. crassa, brunnea.

Chiengmai, in evergreen jungle by streams on Doi Sootep, 660 m., *Kerr*, 1719 ♂, 750 m., *Kerr*, 1091 ♀, 720 m., *Kerr*, 1432 (fruit).

Mercurialis leiocarpa, *Sieb. et Zucc.*

Doi Intanon, 2560 m., *Hosseus*, 359a (Herb. Kew! Hoss.! Copenhagen!).

Distr. Japan, China.

Acalypha Kerrii, *Craib*, sp. n., *A. acmophyllae*, Hemsl., valde affinis sed petiolis brevioribus, floris ♀ bracteis transverse oblongis paucidentatis eiusque perianthii segmentis latioribus, stylis longioribus distinguenda.

Arbor parva (ex *Kerr*); ramuli primo tenuiter tomentelli, mox glabri, cortice rubro-brunneo striato interdum lenticellato obtecti. *Folia* ovata vel lanceolata, apice acuminata, acutiuscula, basi obtusa vel rotundata, 3·5–12·5 cm. longa, 1·5–7 cm. lata, tenuiter chartacea, serrata, supra matura glabra, pustulata, infra, costa nervisque praecipue, pubescentia, e basi trinervia, nervis secundariis (e costa ortis) utrinque 4–5 pagina utraque, inferiore magis, prominulis; petioli 0·5–3·5 cm. longi, indumento ramulorum; stipulae deciduae, lineares, apice attenuatae, ad 9 mm. longae, dorso parce pubescentes. *Spicae* axillares, androgynae, floribus ♀ 2–3 basin versus solitariis, ♂ fasciculatis, ad 3 cm. longae, pubescentes. *Flores* ♂ perfecti deficientes. *Bracteae* ovato-triangulares, concavae, circiter 0·5 mm. longae. *Flores* ♀ interdum solitarii, axillares (ob spicas ♂ delapsas?). *Bracteae* transverse oblongae, 4–5-dentatae, 2·5–3 mm. longae, 4–5 mm. latae, dorso parce pubescentes. *Calycis* segmenta deltoidea, obtusa, 0·75 mm. longa, 0·5 mm. lata. *Ovarium* hispidum, 0·75 mm. diametro; styli laciniati, ad 4 mm. longi, glabri.

Chiengmai, in evergreen jungle on Doi Sootep, 900 m., *Kerr*, 1165.

Alchornea rugosa, *Muell.-Arg.*—F.B.I., v. p. 422; For. Fl. Burma, ii. p. 385.

Huai Tuam, 180 m., *Luang Vanpruk*, 227; Me Youak Phre, 240 m., *Luang Vanpruk*, 235.

Distr. Indo-China, Malaya.

Lao Name, Khang Poi (ex *Luang Vanpruk*).

Alchornea tiliaefolia, *Muell.-Arg.*—F.B.I., v. p. 421 ; For. Fl. Burma, ii. p. 386.

Chiengmai, by stream in evergreen jungle on Doi Sootep, 750 m., *Kerr*, 639.

Distr. Sikkim, Assam, Burma.

Trewia nudiflora, *Linn.*—F.B.I., v. p. 423 ; For. Fl. Burma, ii. p. 379.

Near Lampoon, by a stream, 360 m., *Kerr*, 967 ; Phre, 156–240 m., *Luang Vanpruk*, 123.

Distr. India, Assam, Burma, Malaya.

Cleidion javanicum, *Blume*—F.B.I., v. p. 444 ; For. Fl. Burma, ii. p. 390 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 125.

Muang Prow, Hooey Meh Wäh, by a stream, 540 m., *Kerr*, 1040 ; Chiengmai, cultivated, 300 m., *Kerr*, 1082 ; Me Youak Phre, 240 m., *Luang Vanpruk*, 233.

Distr. S.E. Asia.

Lao name Mä Di Mi (ex *Kerr*), Madumu (ex *Luang Vanpruk*).

According to Kerr an oil is extracted from the fruit.

To this species belong the specimen collected by Collett and referred by Collett and Hemsley, l.c. to *Croton oblongifolius*, Roxb. and the specimen from Mu Valley collected by Smales referred to *Mallotus khasianus*, Hook. f. in Brandis, Indian Trees p. 589.

Mallotus cochinchinensis, *Lour.*—F.B.I., v. p. 430. *M. paniculatus*, Müell.-Arg.— For. Fl. Burma, ii. p. 383.

Chiengmai, Doi Sootep, by a stream in evergreen jungle, 720 m., *Kerr*, 1433.

Distr. China to Malay Archipelago.

Mallotus repandus, *Muell.-Arg.*—F.B.I., v. p. 442 ; For. Fl. Burma, ii. p. 380.

Chiengmai, in scrub jungle, 300 m., *Kerr*, 1672.

Distr. S.E. Asia.

Macaranga Andersoni, *Craib*, nom. nov. *M. membranacea*, Kurz, Journ. As. Soc. Beng., xlii. (1873) p. 246 : For. Fl. Burma, ii. p. 389 saltem pro parte, *non* Muell.-Arg. (1866).

Yunnan, Tut Yower, *D. J. Anderson*, 22/9/1868.

Chiengmai, in evergreen jungle on Doi Sootep, 1050–1200 m., *Kerr*, 1187, 1187*a*.

Of the type of Kurz's *M. membranacea* there is only a flowerless specimen in Herb. Kew. This particular specimen has all the leaves lobed. The specimen collected by Anderson which agrees exactly with those collected by Kerr shows no trace of lobing in the leaves and is named *M. membranacea* in Kurz's own handwriting. The specimens collected by Anderson, although not quoted by Kurz in his original description, probably were used by him in his description at least so far as the simple leaves are concerned. In all probability Kurz's description includes two species the Burmese one with lobed leaves and the Yunnan-Siam one with simple leaves for which the writer proposes the name *M. Andersoni*.

Macaranga denticulata, *Muell.-Arg.*—F.B.I., v. p. 446; For. Fl. Burma, ii. p. 287.

Chiengmai, by a stream in evergreen jungle on Doi Sootep, 750–900 m., *Kerr*, 1093.

Distr. Himalayas, Indo-China, Malaya.

Homonoia riparia, *Lour.*—F.B.I., v. p. 455; For. Fl. Burma, ii. p. 401; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 126.

Meh Ping Banks, 150–350 m., *Kerr*, 506, *Hosseus*, 375; near Lakon, 300 m., *Kerr*, 975; Paknampo, common along River Menam, *Witt*, 11, 12.

Distr. S.E. Asia.

Lao name, Kai (ex *Kerr*).

Baliospermum axillare, *Blume*—F.B.I., v. p. 461; Williams, Bull. Herb. Boiss., v. (1905) p. 32; Coll. et. Hemsl., Journ. Linn. Soc., xxviii. p. 126. *B. montanum*, Muell.-Arg.—For. Fl. Burma, ii. p. 410.

Chiengmai, 300 m., on waste ground, *Kerr*, 942; Wang Djao, *Lindhard*, 77; Bangkok, *Schomburgk*, 134.

Distr. S.E. Asia (except Ceylon).

Baliospermum siamense, *Craib*, sp. n., ab affini *B. calycino*, Muell.-Arg., petiolis inflorescentiisque brevioribus, floris ♀ sepalis latioribus, ovario subglabro, stylis suberectis gracilioribus recedit.

Fruticulus monoicus vel dioicus, simplex, 1·2–1·5 m. altus (ex *Kerr*); caules primo appresse pubescentes et parce setosi, mox glabri. *Folia* plerumque oblanceolata vel anguste oblonga, apice acuminata, acuta, basi obtusa vel subrotundata, 8–23 cm. longa, 2·2–6·6 cm. lata, tenuiter chartacea, margine crasse distanter glanduloso-serrata vel rarissime subintegra, supra glabra vel costa tantum parcissime setosa, subtus costa nervisque lateralibus setosa, nervis transversis pilosula, nervis lateralibus utrinque 7–12 intra marginem arcuatis, supra conspicuis subtus prominulis, nervis transversis utrinque, subtus magis, conspicuis; petioli 0·8–5 cm. longi, indumento ut in caulibus. *Paniculae* ♂ axillares, quam foliis multo breviores, ad 4 cm. longae, angustae, pedunculo communi ad 5 cm. longo suffultae, pilosulae; pedicelli vix 4 mm. attingentes; bracteae parvae. *Sepala* 5, suborbicularia, concava, circiter 1·5 mm. longa, membranacea, extra parce pilosula. *Stamina* ± 20, filamentis liberis circiter 2 mm. longis glabris. *Paniculae* ♀ axillares, pauciflorae, pedunculo ad 2·5 cm. longo suffultae; pedicelli ad 4 mm. longi; bracteae parvae. *Sepala* 5, variabilia, subaequalia, plerumque ovato-lanceolata, acuta, ad 4 mm. longa, 2 mm. lata, irregulariter pauci-serrata vel subintegra, dorso appresse pilosula, fructescentia fere 1 cm. longitudinis attingentia. *Ovarium* 0·75 mm. altum, subglabrum; styli 3, basi breviter connati, apice bifidi. *Capsula* glabra, 7 mm. alta; semina brunnea, 5 mm. longa, 3·5 mm. diametro.

Chiengmai in evergreen jungle on Doi Sootep, 1200–1260 m., *Kerr*, 790 (all dioecious), *Kerr*, 1365 (part monoecious, part dioecious).

Sapium insigne, *Benth.*—F.B.I., v. p. 471. *Carumbium insigne*, Kurz, For. Fl. Burma, ii. p. 412.

Muang Prow, Meh Kaut, 450 m., *Kerr*, 1031.

Distr. Himalayas, Bengal, Burma.

Sebastiana Chamælea, *Muell.-Arg.*—F.B.I., v. p. 475.
Cape Liant, *Murton*, 27.
Distr. China southwards to Australia and westward to Trop. Africa.

Ulmaceae.

Holoptelea integrifolia, *Pl.*—F.B.I., v. p. 481 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 126. *Ulmus integrifolia*, Roxb.—For. Fl. Burma, ii. p. 473.
Phre, Hooey Kamin, *Kerr*, 990.
Distr. India, Burma (? W. Trop. Africa).

Trema amboinensis, *Blume*—F.B.I., v. p. 484 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 126 ; Williams, Bull. Herb. Boiss., iv. (1904) p. 1030. *T. orientalis*, Blume, var. *amboinensis*, Kurz, For. Fl. Burma, ii. p. 468.
Chiengmai, in evergreen jungle on Doi Sootep, 600–900 m., *Kerr*, 628, 1293 ; Phre, Hooey Kamin, 180 m., *Luang Vanpruk*, 208.
Distr. Sikkim, Assam southwards to Malaya.
Lao name, Paw Fan (ex *Luang Vanpruk*).

Moraceae.

Streblus asper, *Lour.*—F.B.I., v. p. 489 ; For. Fl. Burma, ii. p. 464 ; Williams, Bull. Herb. Boiss., iv. (1904) p. 1029.
Meh Teng, Ban Pou, 390 m., *Kerr*, 1061 ; Bangkok, *Schomburgk*, 146, *Gould*, *Zimmermann*, 91.
Distr. E. Asia.
Lao name, Koi (ex *Kerr*).

Broussonetia papyrifera, *Vent.*—F.B.I., v. p. 490 ; For. Fl. Burma, ii. p. 467.
Phre 120–180 m., *Luang Vanpruk*, 139 ♂ ; between Lakon and Phre, near Pang Pooey, 420 m., *Kerr*, 1000 ♀.
Distr. E. Asia, Pacific Is.—often cultivated.
Lao name, Mai Sah (ex *Kerr*).

Allaeanthus Kurzii, *Hook. f.*, F.B.I., v. p. 490. *Malaisa tortuosa*, Kurz, For. Fl. Burma, ii. p. 466, *non* Blume.
Doi Saket, Ban Sun Pah Suk, 600 m., *Kerr*, 970 a ♂ ; Lakon, Pak Kaung Nai, 300 m., *Kerr*, 970 ♀.
Distr. Burma, Assam.
Lao name, ♂ Dauk Să Laa : ♀ Mai Să Laa.

Morus laevigata, *Wall.*—F.B.I., v. p. 492 ; For. Fl. Burma, ii. p. 467.
Phre, 120–240 m., *Luang Vanpruk*, 193 ; Chiengmai, in evergreen jungle on Doi Sootep, 660 m., *Kerr*, 1736. ? Bangkok, *Schomburgk*.
Distr. Himalayas, Burma, Assam.
Lao name, Mawn (ex *Luang Vanpruk*).

Ficus crininervia, *Miq.*—F.B.I., v. p. 529 ; King, Ann. Roy. ot. Gard. Calc., i. p. 138 t. 173.
Chiengmai, creeping over rocks by a stream on Doi Sootep, 390 m., *Kerr*, 1240.
Distr. Assam.

Ficus fistulosa, *Reinw.*—F.B.I., v. p. 525; For. Fl. Burma, ii. p. 459 pro parte; King, Ann. Roy. Bot. Gard. Calc., i. p. 114 tt. 150, 151.

Chiengmai, on old clearing on Doi Sootep, 750 m., *Kerr*, 1793.

Distr. Bengal, Assam, Malaya.

Ficus hirta, *Vahl*—F.B.I., v. p. 531; For. Fl. Burma, ii. p. 449; King, Ann. Roy. Bot. Gard. Calc. i. p. 149 t. 188.

Chiengmai, in evergreen jungle on Doi Sootep, 900 m., *Kerr*, 701.

Distr. S.E. Asia.

Ficus hispida, *Linn. f.* —F.B.I., v. p. 522; For. Fl. Burma, ii. p. 460; Williams, Bull. Herb. Boiss., iv. (1904) p. 1029: King, Ann. Roy. Bot. Gard. Calc., i. p. 116 tt. 154, 155.

Common along rivers in Lower Siam, *Witt*, 41.

Distr. S.E. Asia, Australia.

Ficus laevis, *Blume*—F.B.I., v. p. 526; King, Ann. Roy. Bot. Gard. Calc., i. p. 128 t. 161.

Chiengmai, on edge of old clearing on Doi Sootep, 660 m., *Kerr*, 1203; in evergreen jungle by a stream, 900 m., *Kerr*, 1739.

Distr. Himalayas, Assam, Tonkin, Malaya.

Ficus obtusifolia, *Roxb.*—F.B.I., v. p. 507; For. Fl. Burma, ii. p. 443; King, Ann. Roy. Bot. Gard. Calc., i. p. 42 tt. 49, 84g.

Chiengmai, Doi Sootep, 450–660 m., *Kerr*, 517, 1783.

Distr. E. Himalayas, Assam, Burma, Perak.

Ficus pyriformis, *Hook. et Arn.*, var. **ischnopoda**, *King*, F.B.I., v. p. 533, Ann. Roy. Bot. Gard. Calc., i. p. 158 t. 201c; Williams, Bull. Herb. Boiss., iv. (1904) p. 1030.

Chiengmai, on edge of marshy ground on Doi Sootep, 300 m., *Kerr*, 717; Koh Chang, Klong Majum, *Schmidt*, 617a.

Distr. Khasia, Burma, Malaya.

Ficus saemocarpa, *Miq.*—F.B.I., v. p. 523; King, Ann. Roy. Bot. Gard. Calc., i. p. 115 t. 152. *F. pyrrhocarpa*, Kurz, For. Fl. Burma, ii. p. 424.

Chiengmai, by edge of mountain streams on Doi Sootep, 720–1200 m., *Kerr*, 592.

Distr. Himalayas, Assam, Burma.

Lao name, Dooa hohey.

Kerr's plant is identical with the type of *F. pyrrhocarpa*, Kurz in Herb. Kew.

Ficus scandens, *Roxb.*—F.B.I., v. p. 526; For. Fl. Burma, ii. p. 455; King, Ann. Roy. Bot. Gard. Calc., i. p. 129 t. 162.

Chiengmai, Doi Sootep, in evergreen jungle, 900 m., *Kerr*, 1829.

Distr. N. India, Assam, Burma.

Urticaceae.

Fleurya interrupta, *Gaud.*—F.B.I., v. p. 548.

Chiengmai, 300 m., *Kerr*, 1345—"a garden weed."

Distr. Abyssinia, E. Asia, Pacific Is.

Girardinia heterophylla, *Dcne.*—F.B.I., v. p. 550.

Chiengmai, Doi Sootep, 1500 m., *Kerr*, 1106.

Distr. India, Burma, Assam, Java, Trop. Africa.

Pilea anisophylla, *Wedd.*—F.B.I., v. p. 552.
Chiengmai, Doi Sootep, *Hosseus*, 199.
Distr. Himalayas, Assam, (? Yunnan).

Pilea sp.—♂ only.
Chiengmai, Doi Sootep, in evergreen jungle, 1650 m., *Kerr*, 1323.

Pellionia Daveauana, *N. E. Brown*, var. **viridis**, *N. E. Brown*.
Chiengmai, creeping over rocks and humus near a stream on Doi Sootep, 660 m., *Kerr*, 1277.
Distr. Cochinchina.

Boehmeria macrophylla, *Don*—F.B.I., v. p. 577 ; For. Fl. Burma, ii. p. 424.
Chiengmai, Doi Sootep, 660 m., *Kerr*, 865.
Distr. Himalayas, Burma, Assam.

Pouzolzia viminea, *Wedd.*—F.B.I., v. p. 581 ; For. Fl. Burma, ii. p. 425 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 127.
Chiengmai, Doi Sootep, 660–960 m., *Kerr*, 1255, 1276.
Distr. India, S. China, Indo-China, Malaya.

Debregeasia longifolia, *Wedd.* *D. velutina*, Wedd.—F.B.I., v. p. 590 ; For. Fl. Burma, ii. p. 428.
Chiengmai, Doi Sootep, in evergreen jungle, 1650 m., *Kerr*, 1506.
Distr. S.E. Asia.

Villebrunea integrifolia, *Gaud.*, var. **sylvatica**, *Hook. f.*, F.B.I., v. p. 590. *Oreochnide sylvatica*, Miq.—For. Fl. Burma, ii. p. 427.
Chiengmai, in evergreen jungle by a stream on Doi Sootep, 900 m., *Kerr*, 1158.
Distr. India, Burma, Assam, Malaya.

Juglandaceae.

Engelhardtia aceriflora, *Blume*—F.B.I., v. p. 596.
Chiengmai, Doi Sootep, in evergreen jungle, 750–1050 m., *Kerr*, 955.
Distr. E. Himalayas, Yunnan, Malay Archipelago.
Lao name, Pah Hoht.

Engelhardtia Colebrookiana, *Lindl.*—F.B.I., v. p. 596 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 127. *E. villosa*, Kurz, For. Fl. Burma, ii. p. 491.
Phre, 156–240 m., *Luang Vanpruk*, 115.
Distr. Himalayas, China, Indo-China, Java.
Probably only a variety of the next species.

Engelhardtia spicata, *Blume*—F.B.I., v. p. 595 ; For. Fl. Burma, ii. p. 491 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 128.
Chiengmai, Doi Sootep, 330–700 m., *Kerr*, 531, *Hosseus*, 303.
Distr. N. India, Indo-China, Java.

Betulaceae.

Carpinus Londoniana, *H. Winkler*, Engler Pflanzenr., Betulaceae, p. 32, vel ei valde affinis.
Chiengmai, Doi Sootep, by stream in oak jungle, 660 m., *Kerr*, 511.
Distr. Yunnan.

Quercus fenestrata, *Roxb.*—F.B.I., v. p. 608; For. Fl. Burma, ii. p. 483; King, Ann. Roy. Bot. Gard. Calc., ii. p. 45 t. 39.

Chiengmai, in open grassy jungle on Doi Sootep, 1560 m., *Kerr*, 1320; ? in open jungle, 1350 m., *Kerr*, 708 (very young fruit); ? 660 m., *Kerr*, 1086 (in flower).

Distr. E. Himalayas, Burma, Assam.

Quercus Garrettiana, *Craib*, sp. n., *Q. Skanianae*, Dunn, facie similis sed cupularum squamis haud parvis haud appressis facile distinguenda.

Arbor 9-metralis (ex *Kerr*); ramuli dense fulvo-tomentosi. *Folia* oblanceolata vel oblongo-oblanceolata, apice acuminata, acuta, basi attenuata, 8–22·5 cm. longa, 2·6—5·8 cm. lata, subcoriacea, margine integro recurvo, supra primo, costa densius, pilulosa, mox glabra vel subglabra nisi costa tomentella, subtus parce pubescentia, nervis lateralibus utrinque 12–13 supra conspicuis subtus prominentibus nervis transversis subtus prominulis; petioli ad 1·3 cm. longi, indumento ut in ramulis. *Spicae* ♀ rigidae, erectae, rachi fulvo-tomentella, ♂ haud visae. *Cupulae* sessiles, confertae; involucri squamae basi connatae, subulatae, circiter 5 mm. longae, reflexae, appresse pubescentes. *Glans* fere omnino inclusa, ovoideo-conica, apiculata, circiter 1·3 cm. alta, 1–1·2 cm. diametro, glabra.

Chiengmai, Doi Sootep, 600–750 m., *Kerr*, 1185, 1185a.

Quercus Junghuhnii, *Miq.*—King, Ann. Roy. Bot. Gard. Calc., ii. p. 78 t. 73.

Chiengmai, Doi Sootep, 900–1200 m., *Kerr*, 817, *Hosseus*, 307.

Distr. Java, Formosa.

Lao name, Mákaw Dohey (ex *Kerr*).

The nut is eaten and greatly esteemed by the natives (*Kerr*, Kew Bull. 1911, p. 5).

Quercus (Cyclobalanopsis) Kerrii, *Craib*, sp. n., a *Q. velutina*, Lindl., foliis majoribus haud acute acuminatis nervis lateralibus ad marginem subrectis haud curvatis recedit.

Arbor mediocris (ex *Kerr*); ramuli primo valde sulcati, dense fulvo-tomentosi, indumento diu persistente, mox teretes. *Folia* lanceolata, oblonga vel oblongo-lanceolata, apice obtusa, basi interdum inaequalia, cuneata vel subrotundata, 9–23·5 cm. longa, 3–7·5 cm. lata, subcoriacea, juvenilia utrinque dense tomentosa, supra costa fulva excepta purpurea, matura utrinque, costa subtus nonnunquam flocculenta excepta, glabra, nervis lateralibus utrinque 14 ad marginem subrectis supra conspicuis subtus prominentibus nervis transversis subprominulis, margine, parte basali integra excepta, serrata vel crenato-serrata; petioli 1–1·8 cm. longi, indumento ramulorum; stipulae fugaces, ad 1 cm. longae. *Spicae* ♂ ad ramorum apices confertae; bracteae lineares, acutae, 3 mm. longae, 0·75 mm. latae, dorso appresse pubescentes, ciliatae. *Filamenta* brevia; antherae hirsutiusculae. *Spicae* ♀ in ramulis axillares, solitariae. *Cupulae* sessiles, patelliformes, ad 8 mm. altae, 2·2 cm. diametro, extra conspicue appresse pubescentes; lamellae circiter 8, denticulatae. *Glans* (an matura ?) ad 7 mm. alta, vix 2 cm. diametro, apice depressa, apiculata, vix glabra.

Chiengmai, in deciduous jungle on lower slopes of Doi Sootep, 300–600 m., *Kerr*, 550 ; Doi Sootep, 1000 m., *Hosseus*, 438.

Distr. ? Martaban, *Kurz*, 996.—There is no fruit attached to this specimen, which, except that the leaves are rather longer cuneate at the base agrees well with the Siamese plant.

From *Q. Helferiana* and *Q. Brandisiana* the plant described above is readily distinguished by the lateral leaf nerves which are narrow and subprominent on the upper surface, and by the narrow costa which is not depressed.

Quercus (Lepidobalanus) Kingiana, *Craib*, sp. n., a *Q. incana*, Roxb., foliis subtus parce stellato-pubescentibus marginibus a medio apicem versus plus minusve crasse dentato-serratis distinguenda.

Arbor mediocris (ex *Kerr*) ; ramuli juventute dense fulvo-tomentelli, mox glabri, cortice lenticellato. *Folia* oblonga vel obovato-oblonga, apice obtusa, basi inaequalia, truncata vel obtuse cuneata, 5·5–14·7 cm. longa, 3–7·2 cm. lata, fere a medio apicem versus crasse dentato-serrata, juvenilia supra parce fulvo-pilulosa, subtus densius stellato-pubescentia, matura rigide chartacea, supra glabra, subtus parce stellato-pubescentia, nervis lateralibus utrinque 10–11 supra sicco subprominulis subtus prominentibus nervis transversis uti reticulatione gracili utrinque conspicuis ; petioli ad 2 cm. longi, tomentelli ; stipulae lineari-oblanceolatae, vix 1. cm. longae, dorso sericeae. *Spicae* ♂ ad ramorum apices confertae ; bracteae 1·5 mm. longae, ciliatae ; perianthium 1·5 mm. altum, lobis apice rotundatis ; filamenta perianthio subaequalia, glabra, antheris 1·25 mm. longis. *Cupulae* sessiles, circiter 1·5 cm. altae, 2 cm. diametro, squamis dorso subsericeis nisi apice subglabris. *Glans* (vix matura) inclusa.

Chiengmai, Doi Sootep, in open jungle, 750–900 m., *Kerr*, 956, 1284. Lao name, Kau Tum Moo.

Closely allied to this species is *Hosseus*, 300, from Doi Sootep, 1300–1500 m., but is represented at Kew by flowering material only.

Quercus Lindleyana, *Wall.*—F.B.I., v. p. 607 ; For. Fl. Burma, ii. p. 486 ; King, Ann. Roy. Bot. Gard. Calc., ii. p. 39 t. 55.

Chiengmai, Doi Sootep, 840–1500 m., *Kerr*, 1163, 1965, *Hosseus*, 625.

Distr. Burma.

Quercus polystachya, *Wall.*—F.B.I., v. p. 610 ; For. Fl. Burma, ii. p. 485 ; King, Ann. Roy. Bot. Gard. Calc., ii. p. 50 t. 44. *Q. bancana*, Kurz, For. Fl. Burma, ii. p. 485, *non* Scheff. (fide *King*).

Chiengmai, in eng jungle on Doi Sootep, 300 m., *Kerr*, 796.

Distr. Burma, Yunnan, Hong Kong.

Quercus semiserrata, *Roxb.*—F.B.I., v. p. 604 ; For. Fl. Burma, ii. p. 488 ; King, Ann. Roy. Bot. Gard. Calc., ii. p. 68 t. 22.

Chiengmai, Doi Sootep, in evergreen jungle, 900 m., *Kerr*, 1113, 1644.

Distr. Burma, Assam.

Quercus (Cyclobolanus) sootepensis, *Craib*, sp. n., a *Q. Cantleyana*, King, fructibus semper solitariis pedicellis longioribus gracilioribus suffultis, rachi tenuiore tomentella recedit.

Arbor mediocris (ex *Kerr*), ramulis cortice brunneo vel griseo-brunneo obtectis. *Folia* elliptica, anguste elliptica vel oblongo-ovata, apice caudata, obtusa, basi cuneata vel subrotundata,

9–17·5 cm. longa, 4·2–8·6 cm. lata, subcoriacea, utrinque glabra, nervis lateralibus utrinque 9–11 supra conspicuis subtus prominentibus nervis transversis utrinque conspicuis costa utrinque prominente ; petioli circiter 1·5 cm. longi, glabri. *Paniculae* ♀ et terminales et in axillis supremis, rachi tomentella, ♂ non visae. *Cupulae* patelliformes, circiter 4 mm. altae, 1·6 cm. diametro, indistincte zonatae ; pedicelli ad 8 mm. longi, medio 2·5 mm. diametro. *Glans* depresso-globosa, apiculata, 1·5 cm. alta, 1·7 cm. diametro, vix glabra.

Chiengmai, Doi Sootep, in rather open jungle, 900 m., *Kerr*, 780.

Probably a younger state with glans more elongate is represented by *Kerr*, 1312 from Doi Sootep, 660 m.

Quercus ? spicata, *Smith*—F.B.I., v. p. 609 ; For. Fl. Burma, ii. p. 486 ; King, Ann. Roy. Bot. Gard. Calc., ii. p. 47 t. 41.

Phre, 120–180 m., *Luang Vanpruk*, 164—specimen in bud only, leaves very large.

Distr. Himalayas, Burma, Assam, Malaya.

Quercus Thomsoni, *Miq.*—F.B.I., v. p. 615 ; King, Ann. Roy. Bot. Gard. Calc., ii. p. 73 t. 69a.

Chiengmai, in deciduous jungle by a stream on Doi Sootep, 480 m., *Kerr*, 1261.

Distr. Burma, Khasia.

Quercus truncata, *King*, F.B.I., v. p. 618 et Ann. Roy. Bot. Gard. Calc., ii. p. 84 t. 80.

Chiengmai, in open jungle on Doi Sootep, 900 m., *Kerr*, 1285.

To this species probably also belong *Kerr*, 1191 and 1285a, both from Doi Sootep, 900 m., the former in flower and the latter with the glans not always enclosed in the cupule. 1285a might be a natural hybrid between *Q. truncata* which it most resembles and *Q. fenestrata* which it resembles in foliage.

Distr. Assam.

Castanopsis argyrophylla, *King*, F.B.I., v. p. 622 et Ann. Roy. Bot. Gard. Calc., ii. p. 100, t. 85b.

Chiengmai, Doi Sootep, 660 m., *Kerr*, 1303 (fruit immature).

Distr. Burma.

Castanopsis ? diversifolia, *King*, F.B.I., v. p. 620 et Ann. Roy. Bot. Gard. Calc., ii. p. 96 t. 85a. *Castanea diversifolia*, Kurz, For. Fl. Burma, ii. p. 479.

Chiengmai, Doi Sootep, 990–1650 m., *Kerr*, 1283, 1769, *Hosseus*, 500.

Distr. Burma.

This species is represented in Herb. Kew by two leaf specimens of Kurz's types. The Siamese plants differ from these in their much smaller leaves, but agree with King's figure quoted above.

Castanopsis indica, *DC.*—F.B.I., v. p. 620 ; King, Ann. Roy. Bot. Gard. Calc., ii. p. 94 t. 83. *Castanea indica*, Roxb.—For. Fl. Burma, ii. p. 478.

Chiengmai, Doi Sootep, 660–1200 m., *Kerr* 1520, *Hosseus*, 420.

Distr. Himalayas, Assam, Chittagong.

SALICACEAE.

Salix tetrasperma, *Roxb.*—F.B.I., v. p. 626 ; For. Fl. Burma, ii. p. 493 ; Coll. et Hemsl., Journ. Linn. Soc., xxviii. p. 129.

Doi Intanon, 800 m., *Hosseus*, 360 ; sine loco, *Kerr*, 1612a.

Distr. S.E. Asia.

ADDENDUM.

Since the publication in Bull. Herb. Boiss., iv. (1904) and v. (1905), by Dr. Williams of the List of plants known from Siam the following papers have appeared dealing with the Flora of that region :—

Hosseus, C. C., " Beiträge zur Flora des Doi Sutap," Engl. Bot. Jahrb., xl. Beibl. 93 pp. 92–99.

Hosseus, C. C., " Die Aus Siam bekannten Acanthaceen," Engl. Bot. Jahrb. xli. pp. 62–73.

Hosseus, C. C., " Vegetationsbilder aus Siam," Globus, Bd. xcvi. No. 10 and 11.

Hosseus, C. C., " Beiträge zur Flora Siams," Bot. Centralbl., Beihefte xxvii. 2, pp. 455–507.

Hosseus, C. C., " Eine neue Rafflesiaceengattung aus Siam," Engl. Bot. Jahrb., xli. pp. 55–61.

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Allophylus varians, *Craib* non *Radlk.*

In describing a new *Allophylus* from Siam (*K.B.*, 1911, p. 32), the fact that there already existed an *Allophylus varians* founded by Radlkofer on *Schmiedelia varians*, Thw., was overlooked. The writer proposes for the Siamese plant the new name *Allophylus sootepensis*, Craib.

LIV.—MISCELLANEOUS NOTES.

Gogo Vine (*Entada scandens*, Benth.).—In the Board of Trade Journal, September 14th last, reference is made to samples of "soap bark," the prepared bark of the Gogo Vine, recently received from H.M. Consul at Manila, with the information that the material is suitable for the manufacture of soap and hairwashes.

From small specimens of the stem and prepared bark obtained from the Board of Trade, it has been possible to determine the

material as the produce of *Entada scandens*. This is an immense climber cosmopolitan in the tropics, and may be readily recognised by its spirally twisted stems and huge pods which are from two to four feet long, containing hard polished flat circular seeds of a chestnut colour. So long ago as May, 1855, the late Mr. T. C. Archer presented to the Museum a similarly prepared sample of the bark under the same vernacular name, with a note to the effect that it contains saponaceous properties, forms a lather with water, and is much used by Manila ladies for cleaning the hair. The following particulars as to the mode of preparing the bark and its local applications are gathered from "The Medicinal Plants of the Philippines," by T. H. Pardo de Tavera, p. 106 :— "The use made of the mashed bark of this tree is well known throughout the Philippines. Cut in strips and beaten thoroughly between stones it is sold under the name of 'gogo' ; it is macerated in water, to which it imparts a reddish colour, and forms a substitute for soap. The Filipinos use this preparation for bathing, especially the hair, for which purpose there is no more useful or simple preparation. It cures pityriasis, and renders the hair very soft, without drying it too much as is usually the case with soap. The natives use it in treating the itch, washing the affected parts with the maceration and at the same time briskly rubbing them with the bark ; in this way they remove the crusts that shield the acari. The treatment is successful in direct proportion to the energy of rubbing. . . The maceration of gogo is emetic and purgative ; it is used in the treatment of asthma ; it is exceedingly irritating, the slightest quantity that enters the eye causing severe smarting and a slight conjunctivitis for one or two days."

The seeds, which contain saponin, are stated to be used by the Nepalese in the preparation of a hairwash. According to Watt (Dict. Econ. Prod. India), the most general use to which the seeds are applied in India is for crimping linen. The Dhobis cut one side of the seed and scoop out the kernel ; then they introduce two fingers into the cavity, and quickly stroke the damp linen forwards with its polished surface. This crimps it beautifully crossways. The seeds are made occasionally into snuff-boxes and other articles, and are often carried long distances by ocean currents.

J. M. H.

Botanical Magazine for December.—The plants figured are *Aciphylla latifolia*, Cockayne (t. 8407) ; *Rhododendron spinuliferum*, Franch. (t. 8408) ; *Symbegonia fulvo-villosa*, Warb. (t. 8409) ; *Pitcairnea tabulaeformis*, L'Hérit. (t. 8410) ; and *Prunus Sargentii*, Rehder (t. 8411).

The *Aciphylla* is a handsome Umbellifer from the subantarctic islands of New Zealand, where with two other species and with *Pleurophyllum* it constitutes a conspicuous feature in the vegetation. Its introduction to England is due to Capt. A. A. Dorrien-Smith, and the flowering specimen figured in the plate was sent from the garden of Mr. T. A. Dorrien-Smith, Tresco Abbey, Isles of Scilly.

Rhododendron spinuliferum is a Chinese species. Though originally collected by Delavay, we owe its introduction to horticulture to Mr. M. L. de Vilmorin, who raised plants from seeds sent by Ducloux in 1907. The flowers resemble those of *R. Keysii*, Nutt., but in other respects the species is more closely allied to *R. spiciferum*, Franch., and *R. scabrifolium*, Franch. It will probably be hardy only in the mildest part of our islands.

Symbegonia is an interesting genus of *Begoniaceae* in which the perianth segments of the female flower are united, while in the male flower they are free. The genus is endemic in New Guinea and includes four species, all of which have been found in Kaiser Wilhelmsland. The subject of the illustration was raised at the Royal Botanic Gardens, Glasnevin, from seed sent by Dr. Schlechter from New Guinea in 1908.

The *Pitcairnea* is a very distinct and decorative member of the genus and is an old garden plant. It was sent from Chiapas, Mexico, by Mr. Ghiesbreght to Mr. Linden, and exhibited by him about 1861. The only species which it resembles is *P. heterophylla*, Beer, in which the inflorescence is similar, but the dimorphic leaves readily distinguish it from the subject of the plate. The figure was prepared from a plant which flowered at Kew in June, 1910.

The Japanese Cherry, *Prunus Sargentii*, is most nearly related to *P. serrulata*, Lindl., but is distinguished by its few-flowered sessile or subsessile umbels and its broader and more coarsely serrated leaves. Professor Sargent presented seeds to Kew in 1893, from which the plant figured has been raised. It is one of the most beautiful of the single-flowered cherries, and in its native country the tree is said to attain a height of 80 feet : the timber is also much used for wood carving and for the preparation of printing blocks.

Papyrus Cultivation in Egypt.—The following interesting note on Papyrus cultivation in Egypt has been received at Kew, in answer to an enquiry, from the Director-General of Agriculture, Cairo. The information, we understand, was received from a correspondent in Alexandria.

"Papyrus has been planted for commercial purposes along the canals on an estate in the Belbeis district near Cairo. So far the product is only trifling, but if the initial experiments are a success the plant will no doubt be grown on a larger scale later.

"Papyrus is easily but not very quickly propagated by means of offshoots planted one metre apart in March. It may also be raised from seed. The seed is best sown on Sphagnum moss. The seedlings take about two years to become strong plants.

"It appears that Papyrus is more sensitive to salt and to drought than the Egyptian Mat-sedge (*Cyperus alopecuroides*). The best results are obtained when the rootstocks are constantly submerged."

INDEX.

A.

Abrus cantoniensis, var. Hossei, *Craib*, 39.
Acacia, false, 219.
Acalypha Allenii, *Hutchinson*, 229.
— eriophylla, *Hutchinson*, 185.
— glomerata, *Hutchinson*, 229.
— Grantii, *Baker et Hutchinson*, 230.
— Kerrii, *Craib*, 465.
— paucifolia, *Baker et Hutchinson*, 230.
— subsessilis, *Hutchinson*, 231.
— — var. mollis, *Hutchinson*, 231.
Acer macrophyllum, 222.
— rubrum, 304.
— saccharinum, 303.
Acineta Moorei, 351.
Aciphylla latifolia, 475.
Adinobotrys, *Dunn*, gen. nov., 194.
— and Padbruggea (with figs.), 193.
— atropurpureus, *Dunn*, 197.
— erianthus, *Dunn*, (with fig.) 194.
— filipes, *Dunn*, (with fig.) 195.
— myrianthus, *Dunn*, (with fig.) 196.
— Nieuwenhuisii, *Dunn*, 196.
Adenosacme chasalioides, *Craib*, 189.
Aecidium osyridocarpi, *Massee*, (with figs.) 225.
Aeschynanthus persimilis, *Craib*, 430.
Afzelia siamica, *Craib*, 47.
Agrostemma stellatum, *Craib*, 387.
Alangium Kurzii, *Craib*, 60.
Allophyllus sootepensis, *Craib*, 474.
— varians, *Craib*, 32, 474.
Alloplectus (Nautilocalyx) hirsutus, *Sprague*, 346.
— — pallidus, *Sprague*, 346.
Alysia siamensis, *Craib*, 412.
Antidesma Collettii, *Craib*, 461.
— Kerrii, *Craib*, 462.
— sootepensis, *Craib*, 463.
Aphelandra fascinator, 379.
Appleton, Lt.-Col. A. F., economic notes on Transvaal grasses, 158.
Appointments :—
Coutts, J., 117.
Dawe, M. T., 65.
Dear, G., 117.
Dodd, H., 118.
Farquharson, C. O., 377.
Green, H., 118.
Hunter, T., 348.
Irving, W., 117.
McClellan, F. C., 64.
Nock, J. J., 319.
Osborn, A., 117.
Raffill, C. P., 117.
Snowden, J. D., 162.
Taylor, W., 117.
Thomas, H., 65.
Aquilegia flabellata, 78.
Ardisia Kerrii, *Craib*, 407.
Argyreia Kerrii, *Craib*, 422.
— Roxburghii, var. siamica, *Craib*, 423.
Aristolochia dilatata, *N. E. Brown*, 274.
— Hookeriana, *Craib*, 450.
— Kerrii, *Craib*, 450.
— punjabensis, *Lace*, 273.
Ash, white, 217.
Aster Falconeri, 78.
Asystasia Kerrii, *Craib*, 438.

B.

Bailey, F. M., 64.
Balansia asperata, *Massee*, (with figs.) 225.
— sessilis, *Massee*, (with figs.) 225.
Balata, 198.
Baliospermum siamense, *Craib*, 467.
Balsaminaceae of the State of Chitral, 209.
Bancroft, K., a pine disease, 60.
Barleria siamensis, *Craib*, 437.
Bathyphantes explicata, *Cambr.*, 370.
Beddome, Col. R. H., 164.
—, Mrs., presentation by, 278.
Beech coccus, report on investigations, 332.
Beechwood industry of the Chilterns (with plate), 109.
Begonia incerta, *Craib*, 57.
— Kerii, *Craib*, 57.
— sootepensis, *Craib*, 58.
Berberis verruculosa, 327.
Betula lenta, 220.
— lutea, 221.
— nigra, 222.
— papyrifera, 221.
Biophytum Foxii, *Sprague*, 343
Birch, black, 220.
—, canoe, 221.
—, cherry, 220.
—, paper, 221.
—, red, 222.
—, river, 222.
—, yellow, 221.
Bitinga rubber, 352.
Bitter-nut, 306.
Blue couch, 256.
Blumea Hossei, *Craib*, 399.
Bog-land, raised turf system of planting (with plates), 226.
Bolostromus suspectus, *Cambr.*, 371.
Bolus, Dr. H., 275, 319.
Books :—
Botanical Magazine, 78, 125, 172, 204, 246, 279, 323, 324, 351, 379, 380, 475.

Books—*cont.*
Broad Stone of Empire, 128.
Dominica Botanic Station Reports, 173.
Forest Flora of Chota Nagpur, 208.
Hooker's Icones Plantarum, 118.
New Zealand Plants and their story, 280.
Para rubber in the Malay Peninsula, 175.
Report of Commissioners of Agriculture and Forestry of Hawaii, 247.
— on the Dune-areas of New Zealand, 381.
Rubber and Balata in British Guiana, 202.
Trees and shrubs, 382.
Botanical Magazine, 78, 125, 172, 204, 246, 279, 323, 324, 351, 379, 380, 475.
Brachystelma Kerrii, *Craib*, 420.
Breynia glauca, *Craib*, 460.
Bridelia affinis, *Craib*, 456.
Bruce, Sir C., "Broad Stone of Empire," 128.
Buddleia officinalis, 379.

C.

Cacao, die-back of, 120.
Caladium pubescens, 380.
Canarium Kerrii, *Craib*, 26.
Carbon bisulphide as a cure for eel-worm, 169.
Carpinus polyneura, 327.
Carriacou Botanic Station, 173.
Carya alba, 305.
— amara, 306.
— porcina, 306.
— sulcata, 306.
Casearia flexuosa, *Craib*, 54.
— Kerrii, *Craib*, 55.
Cassia Bakeriana, *Craib*, 45.
Cattleya Rex, 279.
Cedar, pencil, 377.
Cephaelis siamica, *Craib*, 395.
Cerastium boreale, *Takeda*, 105.
—, Japanese species of (with figs.), 100.
— rigidulum, *Takeda*, 105.
— Schmidtianum, *Takeda*, 106.
Ceropegia sootepensis, *Craib*, 420.
Chambers, B. E. C., 166.
Cherry, black, 218.
Chiengmai, sketch of the vegetation of (with plates), 1.
Chilterns, beechwood industry of (with plate), 109.
Chinese, forestry among, 126.
— trees and shrubs, seeds of, 203.
Chitral, Balsaminaceae of, 209.
Chokushi-Mon, 167.
Chota Nagpur, Forest flora of, 208.
Chrysophyllum viridifolium, *Wood et Franks*, 258.
Cirrhopetalum longissimum, 172.
Cissus Kerrii, *Craib*, 31.
Cladothamnus pyrolaeflorus, 78.
Claoxylon (Athroandra) macrophyllum, *Prain*, 95.
— — oleraceum, *Prain*, 94.
— — patulum, *Prain*, 93.
— — Poggei, *Prain*, 93.
Clematis aristata, var. Dennisae, 204.
— chrysocoma, 351.
— montana, var. Wilsonii, 172.
Clerodendron Garrettianum, *Craib*, 444.
— Vanprukii, *Craib*, 444.
Clitocybe egregia, *Massee*, 223.
Clusia grandiflora, 324.
Cockayne, report on the dune-areas of New Zealand, 381.
Colpomenia sinuosa, increase of, in Britain, 153.
Columbia flagrocarpa, var. siamica, *Craib*, 23.
Columnea gloriosa, 279.
Combretum tanaense, *J. J. Clark*, 263.
Cooke, Mrs., presentations by, 118.
Cordyceps entomorrhiza (with fig.), 376.
Corylus Colurna, var. chinensis, 327.
Cottonwood, 309.
Coutts, J., 117.
Coxella, *Cheesem. et Hemsl.*, gen. nov., 188.
— Dieffenbachii, *Cheesem. et Hemsl.*, 188.
Crassula globosa, *N. E. Brown*, 356.
— humilis, *N. E. Brown*, 357.
Crataego-mespilus Asnieresii (with plate), 268.
— — Dardari (with plate), 268.
Cross, R. M., 165.
Crotolaria Hossei, *Craib*, 34.
Crotonogyne ikelembensis, *Prain*, 264.
— impedita, *Prain*, 264.
— lasiocarpa, *Prain*, 265.
Crown-gall and hairy root, 176.
Cryptococcus fagi, 332.
Cucumis metuliferus, 323.
Cypripedium speciosum, 207, 323.
— Thunbergii, 205.
Cyrtogonone, *Prain*, gen. nov., 231.
— argentea, *Prain*, 232.
Cystacanthus abbreviatus, *Craib*, 438.

D.

Dacrydium cupressinum, 121.
Dalbergia Kerrii, *Craib*, 43.
Dawe, M. T., 65.
— — —, agriculture in Mozambique, 174.

Dear, G., 117.
Decades Kewenses, 188, 269, 343.
Deinanthe caerulea, 246.
Dendrobium Dartoisianum, 78.
— muricatum, var. munificum, 204.
Diagnoses africanae, 82, 133, 181, 229, 262, 313, 356.
Dicliptera Rogersii, *Turrill*, 314.
Didymocarpus (Eudidymocarpus) Kerrii, *Craib*, 431.
— — purpureo-picta, *Craib*, 431.
Digitaria didactyla, 256.
Dillenia Kerrii, *Craib*, 8.
Diospyros Kaki, 234.
— Kerrii, *Craib*, 408.
— Roxburghii, 234.
Dipentodon, *Dunn*, gen. nov., 310.
— sinicus, *Dunn*, (with figs.) 311.
Diplodia cacaoicola, 120.
— pinea, 60.
Diplospora siamica, *Craib*, 393.
Dischidia singularis, *Craib*, 419.
Discoglypremna, *Prain*, gen. nov., 317.
— caloneura, *Prain*, 317.
Diseases of plants :—
Bacterium tumefaciens, 176.
Cacao, die-back of, 120.
Crown-gall and hairy root, 176.
Die-back of Cacao and Para rubber, 120.
Diplodia cacaoicola, 120.
— pinea, 60.
Helminthosporium syringae (with plate), 81.
Hevea brasiliensis, die-back of, 120.
Lemon grass, disease of, 224.
Lilac, disease of (with plate), 81.
Para rubber, die-back of, 120.
Pine disease, 60.
Puccinia cymbopogonis, 224.
Thyridaria tarda, 120.
Dodd, H., 117.
Dominica, Botanic Station Reports, 173.
Dracocephalum argunense, 323.
Dunes, sand, reclamation of, 381.
Dunn, S. T., Adinobotrys and Padbruggea, 193.
— — —, some additions to the genus Fordia, 62.
— — —, Spatholirion, 161.

E.

Ecanda rubber, 352.
Egypt, Papyrus cultivation in, 476.
Elaeagnus argentea, 204.
Elaeocarpus siamensis, *Craib*, 23.
Elliottia racemosa, 322.
Elytranthe affinis, *Craib*, 454.
Embelia sootepensis, *Craib*, 406.
— stricta, *Craib*, 407.
Entada scandens, 474.
Eranthemum malaccense, 79.
Erica tetralix, 378.
— vagans, 378.
— vagans x tetralix, 378.
Erythrococca berberidea, *Prain*, 92.
— Laurentii, *Prain*, 186.
— Ledermanniana, *Prain*, 92.
— natalensis, *Prain*, 91.
— olacifolia, *Prain*, 89.
— Poggeophyton, *Prain*, 187.
— subspicata, *Prain*, 185.
— usambarica, *Prain*, 90.
— zambesiaca, *Prain*, 90.
Eucalyptus occidentalis, var. astringens 114.
Euphorbia Kerrii, *Craib*, 456.
— Lacei, *Craib*, 456.

F.

Fagus japonica, 330.
Farquharson, C. O., 377.
Felicia petiolata, 204.
Fimbristylis Lacei, *Turrill*, 348.
— (Abilgaardia) straminea, *Turrill*, 192.
— tortispica, *Turrill*, 348.
Flemingia Kerrii, *Craib*, 42.
— sootepensis, *Craib*, 43.
Flora, Forest, of Chota Nagpur, 208.
— of Siam, contributions to, 1, 385.
Fokienia Hodginsii, 328.
Fordia cauliflora, 63.
— coriacea, *Dunn*, 63.
— filipes, *Dunn*, 64.
— Gibbsiae, *Dunn*, 64.
—, some additions to the genus, 62.
— stipularis, *Dunn*, 64.
Forest Flora of Chota Nagpur, 208.
Forestry among the Chinese, 126.
—, experimental, trees suitable for, 211, 303.
— in Hawaii, 247.
Forrest, G., Chinese trees and shrubs, 203.
Fraxinus americana, 217.
Fridericia bisetosa (with figs.), 169.
Fungus, a new paint-destroying (with plate), 325.
Fungi exotici (with plate), 223.
Funtumia elastica, 125.

G.

Gardenia sootepensis, *Hutchinson*, 392.
Gelonium angolense, *Prain*, 233.
— procerum, *Prain*, 233.
Gerbera Lacei, *Watt*, 272.
German East Africa, rubber cultivation in, 97.
Gibbera tinctoria, *Massee*, 226.
Ginalloa siamica, *Craib*, 455.

Glochidion Kerrii, *Craib*, 458.
Gogo vine, 474.
Graft hybrids (with plates), 267.
Grass, a new lawn-, 256.
Grasses, Transvaal, economic notes on, 158.
Green, H., 118.
Grewia Lacei, *Drummond et Craib*, 21.
Gumbleton, W. E., 202.
Gutzlaffia pedunculata, *Craib*, 436.
Gymnema Griffithii, *Craib*, 416.
— Lacei, *Craib*, 191.

H.

Haines, H. H., Forest Flora of Chota Nagpur, 208.
Hainesia aurantiaca, *Massee*, 226.
Hart, J. H., 162.
Hawaii, forestry in, 247.
Heath, hybrid, 378.
Hedyotis glauca, *W. W. Smith*, 344.
Helminthosporium syringae (with plate), 81.
Hemigraphis Schomburgkii, *Craib*, 435.
Hemsley, W. B., Persimmons, 234.
Henslowia sessilis, *Craib*, 455.
Heteromorpha scandens, *J. J. Clark*, 229.
Heterostemma siamicum, *Craib*, 418.
Hibiscus subnudus, *Craib*, 19.
Hickory, big shell-bark, 306.
—, mocker-nut, 306.
—, shell-bark or shag-bark, 305.
Hoffmanseggia Pearsonii, *Phillips*, 262.
Hooker, Sir J. D., Balsaminaceae of the State of Chitral, 209.
— — — —, Impatiens from the Malayan Peninsula (with plate), 249.
— — — —, Indian species of Impatiens, 353.
Hooker's Icones Plantarum, 118.
Hoya Kerrii, *Craib*, 418.
— siamica, *Craib*, 419.
Hunter, T., 348.
Hybrid heath, 378.
Hybrids, graft (with plates), 267.
Hydrocotyle siamica, *Craib*, 58.
Hymenocardia grandis, *Hutchinson*, 184.
Hyptianthera bracteata, *Craib*, 393.

I.

Impatiens Balsamina, 210.
— brachycentra, 211.
— cochinica, *Hk. f.*, 355.
— Edgeworthii, 211.
— Flemingii, 211.
— from the Malayan Peninsula (with plate), 249.
Impatiens Harrissii, 211.
— herbicola, *Hk. f.*, 354.
— Herzogii, 351.
—, Indian species of, 353.
— Lehmanni, 211.
— macrocarpa, *Hk. f.*, 355.
— pallidiflora, *Hk. f.*, 354.
— peltata, *Hk. f.*, (with plate) 249.
— rivulicola, *Hk. f.*, 354.
— Roylei, 210.
— Thomsoni, 211.
— Vaughanii, *Hk. f.*, 250.
— verecunda, *Hk., f.*, 356.
Indigofera sootepensis, *Craib*, 35.
Ipomoea Henryi, *Craib*, 423.
— siamensis, *Craib*, 424.
Irving, W., 117.
Ixora grandiflora, var. glabra, *Craib*, 394.
— pavettaefolia, *Craib*, 394.

J.

Jasminum sootepense, *Craib*, 410.
Jatropha Brockmanii, *Hutchinson*, 360.
— confusa, *Hutchinson*, 361.
Jodrell laboratory, research in, 71.
Juglans nigra, 215.
Juniperus barbadensis, 377.
Justicia bicalcarata, *Craib*, 440.

K.

Kennedya Beckxiana, 125.
Kerr, A. F. G., Vegetation of Chiengmai (with plates), 1.
Kew :—
Bamboos cultivated at, 77.
Chokushi-Mon, 167.
Fish at, 68.
Foremen and Storekeeper, 117.
Gardens, presentations to, 65, 168, 203.
Herbarium, additions to, 73.
— presentations to, 278, 352.
Japan-British Exhibition, presentations from, 70.
Jodrell laboratory, research in, 71.
Library catalogue, supplement to, Appendix II.
— presentations to, 75, 118.
Museums, 69.
— presentations to, 170, 278.
Official visits of staff, 69.
Pathology at, 73.
Visitors during 1910, 65.
Waterfowl at, 68.
Wild Fauna and Flora, additions to (with fig.), 365.
King-nut, 306.
Kyllingia pachystyla, *Kükenthal*, 153.

L.

Laburnum Adami, 267.
Lactuca Parishii, *Craib*, 403.
Lagerstroemia Collettii, *Craib*, 53.
— intermedia, var. oblonga, *Craib*, 53.
Landolphia Petersiana, 324.
— Stolzii, 100.
Lasianthus Kerrii, *Craib*, 396.
Leitneria floridana, 331.
Leonotis dysophylla, 380.
Lilac, disease of (with plate), 81.
Limnophila gracilipes, *Craib*, 426.
Linostoma persimile, *Craib*, 452.
Liriodendron Tulipifera, 214.
Lissochilus stylites, 379.
Locust, black, 219.
Lonicera Henryi, 246.
Loranthus (Rufescentes) Albizziae, var. Rogersii, *Sprague*, 134.
— (Hirsuti) alveatus, *Sprague*, 141.
— (Involutiflori) Bussei, *Sprague*, 136.
— (Lepidoti) capitatus, var. albus, *Sprague*, 135.
— — — sessilis, *Sprague*, 135.
— (Erectilobi) Carsonii, *Baker et Sprague*, 151.
— — Cecilae, var. Buchananii, *Sprague*, 151.
— (Cinerascentes) cistoides, *Sprague*, 135.
— (Constrictiflori) constrictiflorus, var. karaguensis, *Sprague*, 148.
— (Rufescentes) crassicaulis, *Sprague*, 134.
— (Constrictiflori) crispatulus, *Sprague*, 359.
— cultarum, *Craib*, 452.
— (Infundibuliformes) deltae, *Baker et Sprague*, 142.
— (Hirsuti) Dregei, var. foliaceus, *Sprague*, 139.
— — — — kerenicus, *Sprague*, 138.
— — — — kilimanjaricus, *Sprague*, 140.
— — — — longipes, *Sprague*, 140.
— — — — nyasicus, *Sprague*, 139.
— — — — ovatus, *Sprague*, 139.
— — — — subcuneifolius, *Sprague*, 138.
— (Constrictiflori) erianthus, *Sprague*, 149.
— (Rufescentes) erythraeus, *Sprague*, 134.
— (Purpureiflori) Eylesii, *Sprague*, 146.
— (Infundibuliformes) falcifolius, *Sprague*, 142.
— (Constrictiflori) Farmari, *Sprague*, 147.
— — findens, *Sprague*, 360.
— (Rigidiflori) fragilis, *Spragae*, 144.
— (Coriaceifolii) glabratus, *Sprague*, 145.
Loranthus (Constrictiflori) globiferus, var. bornuensis, *Sprague*, 148.
— — — — salicifolius, *Sprague*, 148.
— (Erectilobi) Goetzei, *Sprague*, 149.
— (Constrictiflori) guttatus, *Sprague*, 147.
— Kerrii, *Craib*, 453.
— (Constrictiflori) lanceolatus, var. corniculatus, *Sprague*, 149.
— (Rufescentes) leonensis, *Sprague*, 89.
— (Hirsuti) lindensis, *Sprague*, 141.
— (Obtectiflori) longipes, *Baker et Sprague*, 146.
— (Hirsuti) ngamicus, *Sprague*, 137.
— (Rufescentes) nitidulus, *Sprague*, 133.
— (Erectilobi) nyasicus, *Baker et Sprague*, 150.
— (Hirsuti) nyikensis, *Sprague*, 140.
— — occultus, *Sprague*, 137.
— (Cupulati) opacus, *Sprague*, 136.
— (Infundibuliformes) pennatulus, *Sprague*, 143.
— (Ischnanthus) ramulosus, *Sprague*, 182.
— (Remoti) remotus, *Baker et Sprague*, 143.
— (Involutiflori) rubroviridis, var. bechuanicus, *Sprague*, 136.
— (Plicopetalus) sagittifolius, *Sprague*, 88.
— sootepensis, *Craib*, 454.
— (Longicalyculati) Stuhlmannii, var. somalensis, *Engl. ex Sprague*, 145.
— (Sycophila) sublilacinus, *Sprague*, 87.
— (Acrostachys) Thomsonii, *Sprague*, 88.
— (Ischnanthus) triplinervius, *Baker et Sprague*, 181.
— (Longiflori) unyorensis, *Sprague*, 144.
— (Sycophila) Wildemanii, *Sprague* 87.

M.

Macaranga Andersoni, *Craib*, 466.
— Dawei, *Prain*, 232.
McClellan, F. C., 64.
Maerua angustifolia, 245.
— Gilgii, 322.
— Guerichii, 246.
— stenophylla, *Sprague*, 246.
Magnolia salicifolia, 330.
Malay Peninsula, Para rubber in, 175.
Mallet bark, 114.
Manure, peat-moss litter, 349.
Maple, Oregon, 222.
—, red, 304.
—, sugar, 303.
Masdevallia pachyura, 125.

Meconopsis simplicifolia, 172.
Meliosma cuneifolia, 125.
— simplicifolia, var. sootepensis, *Craib*, 33.
Melodinus Henryi, *Craib*, 411.
Mesembryanthemum Barklyi, 168.
— dealbatum, *N. E. Brown*, 357.
— oculatum, *N. E. Brown*, 313.
— rubrolineatum, *N. E. Brown*, 82.
— truncatellum, 168.
Mimetes saxatilis, *Phillips*, 84.
Mimusops Balata, var. Schomburgkii, 198.
— bidentata, 198.
Miscellaneous notes, 64, 117, 162, 202, 245, 275, 319, 348, 377, 474.
Mocker-nut hickory, 306.
Modecca pinnatisecta, *Craib*, 56.
Moore, H. J., 121.
Mormodes revolutum, 324.
Mozambique, agriculture in, 174.
Mussaenda Hossei, *Craib*, 388.
— Kerrii, *Craib*, 389.
— sootepensis, *Craib*, 389.
Mutisia Clematis, 324.

N.

Neoboutonia glabrescens, *Prain*, 265.
— Melleri, *Prain*, 266.
— velutina, *Prain*, 266.
Neolitsea kedahensis, *Gamble*, 172.
— mollissima, *Gamble*, 172.
New garden plants, Appendix III.
— trees and shrubs, garden notes on (with plate), 327.
— Zealand plants, 280.
Niagara Falls, Queen Victoria Park, 121.
Nock, J. J., 319.

O.

Oaks, American, 307.
—, burr, 307.
—, red, 308.
—, white, 307,
Obituary notices:—
Beddome, Col. R. H., 164.
Bolus, Dr. H., 275, 319.
Chambers, B. E. C., 166.
Cross, R. M., 165.
Gumbleton, W. E., 202.
Hart, J. H., 162.
Oldenlandia (Hedyotis) tenelliflora, var. Kerrii, *Craib*, 388.
— Wallichii, *Craib*, 388.
Olea oblanceolata, *Craib*, 410.
— rosea, *Craib*, 411.
Oncidium Sanderae, 246.
Oncoba Routledgei, *Sprague*, 262.
Ophiorrhiza Lacei, *Craib*, 189.
Orchestina dubia, *Cambr.*, 372.
Osbeckia Hildebrandii, *Stapf*, 269.
— racemosa, *Craib*, 51.
Osborn, A., 117.
Osmanthus Aquifolium (with plate), 177.
— Fortunei (with plate), 177.
Ostodes Kerrii, *Craib*, 464.
Ostryocarpus and Ostryoderris, 362.
— lucidus, *Dunn*, 363.
— riparius, 362.
— Zenkerianus, *Dunn*, 362.
Ostryoderris, *Dunn*, gen. nov., 363.
— gabonica, *Dunn*, 364.
— impressa, *Dunn*, 363.
— leucobotrya, *Dunn*, 364.
Oxytenanthera Lacei, *Gamble*, 192.

P.

Padbruggea and Adinobotrys (with figs.), 193.
— dasyphylla (with fig.), 197.
— Maingayi, *Dunn*, 198.
Paederia Kerrii, *Craib*, 396.
— pilifera, var. siamensis, *Craib*, 397.
Papyrus cultivation in Egypt, 476.
Para rubber, die-back of, 120.
— — in the Malay Peninsula, 175.
Passiflora siamica, *Craib*, 55.
Pearson, Prof. H. H. W., succulents from Namaqualand, 168.
Peat-moss litter manure, 349.
Penaea Candolleana, *E. L. Stephens*, 358.
Pencil cedar, 377.
Persimmons, 234.
Pertya Hossei, *Craib*, 402.
Phaedranassa Carmioli, 78.
Phlogacanthus Murtoni, *Craib*, 439.
Phoma pigmentivora, *Massee*, (with plate) 325.
Phyllanthus Dusenii, *Hutchinson*, 314.
— Gossweileri, *Hutchinson*, 315.
— Kaessneri, *Hutchinson*, 315.
— leucocalyx, *Hutchinson*, 316.
— parvus, *Hutchinson*, 316.
— Paxii, *Hutchinson*, 316.
— (Reidia) sootepensis, *Craib*, 459.
Phyllodoce amabilis, 380.
Pig-nut, 306.
Pine disease, 60.
Pinus Bungeana (with plate), 328.
Pitcairnia tabulaeformis, 475.
Pittosporopsis, *Craib*, gen. nov., 28.
— Kerrii, *Craib*, 28.
Polygala aureocauda, *Dunn*, 188.
Populus Eugenei, 310.
— monilifera, 309.
Potentilla ancistrifolia, var. Dickinsii (with figs.), 255.
— fragarioides, var. stolonifera, forma trifoliolata, *Takeda*, 256.

Potentilla fragiformis (with figs.), 251.
— Freyniana, 253.
— megalantha, *Takeda*, (with figs.) 252.
Potentillas from the Far East (with figs.), 250.
Premna fulva, *Craib*, 442.
Primula Maximowiczii, 172.
Prostanthera pulchella, 279.
Protea Doddii, *Phillips*, 82.
— Harmeri, *Phillips*, 83.
— transvaalensis, *Phillips*, 84.
Prunus microcarpa, 125, 205.
— rufa, 331.
— Sargentii, 475.
— serotina, 218.
Pseuderanthemum malaccense, 79, 204.
Pteronia incana, 279.
Puccinia cymbopogonis, *Massee*, 224.
— pulvinata, *Massee*, 224.
Pueraria siamica, *Craib*, 40.

Q.

Quercus Garrettiana, *Craib*, 471.
— (Cyclobalanopsis) Kerrii, *Craib*, 471.
— (Lepidobalanus) Kingiana, *Craib*, 472.
— macrocarpa, 307.
— rubra, 308.
— (Cyclobalanus) sootepensis, *Craib*, 472.

R.

Raffill, C. P., 117.
Randia siamensis, *Craib*, 390.
— similis, *Craib*, 391.
— sootepensis, *Craib*, 391.
— Wittii, *Craib*, 392.
Raphionacme utilis, 352.
Rhododendrom ambiguum, 379.
— japonicum, var. pentamerum, 380.
— lacteum, 246.
— spinuliferum, 475.
— sutchuenense, 172.
Ridley, H. N., 275.
Rimu wood, 121.
Robinia Pseudacacia, 219.
Rubber cultivation in Togoland and German East Africa, 97.
—, Lagos silk, 125.
—, Para, die-back of, 120.
Rubia siamensis, *Craib*, 397.
Rubus (Malachobatus) Kerrii, *Rolfe*, 49.
Ruellia Devosiana, 380.

S.

Sand dunes, reclamation of, 381.
Sansevieria gracilis, *N. E. Brown*, 96.
— Jacquinii, *N. E. Brown*, 97.
— singularis, *N. E. Brown*, 97.
Sapota Mulleri, 198.
Sarcococca humilis, *Stapf*, 329.
Sargent, Prof. C. S., Trees and shrubs, 382.
Sauropus (Ceratogynum) rigidus, *Craib*, 457.
— similis, *Craib*, 457.
Saussurea Veitchiana, *Drummond et Hutchinson*, 190, 279.
Saxifraga lingulata (with plate), 129.
— — var. australis (with plate), 129.
— — var. lantoscana (with plate), 129.
Sclerodactylon, *Stapf*, gen. nov., 318.
— juncifolium, *Stapf*, 318.
Seeds available for distribution, Appendix I.
Selaginella strigosa, *Beddome*, 192.
Senecio (Jacobaea) lancifer, *J. R. Drummond*, 270.
— (Synotis) pelleifolius, *King MS. ex J. R. Drummond*, 271.
— (Ligularia) rumicifolius, *J. R. Drummond*, 271.
— saxifragoides, 351.
Seseli siamicum, *Craib*, 59.
Siam, Flora of, contributions to, 1, 385.
Siphonochilus, *Wood et Franks*, gen. nov., 274.
— natalensis, *Wood et Franks*, 274.
Snowden, J. D., 162.
Solandra Hartwegii, *N. E. Brown*, 345.
Sonchus Tysonii, *Phillips*, 263.
Sorocephalus longifolius, *Phillips*, 85.
— rupestris, *Phillips*, 86.
— Schlechteri, *Phillips*, 85.
— teretifolius, *Phillips*, 85.
— tulbaghensis, *Phillips*, 86.
Spatholirion, 161.
— scandens, *Dunn*, 162.
Spiraea Veitchii, 323.
— Wilsoni, 379.
Stapelia similis, *N. E. Brown*, 358.
Staurogyne shanica, *W. W. Smith*, 347,
Streptocarpus orientalis, *Craib*, 432.
Strychnos acuminata, 302.
— Bancroftiana, 301.
— barbata, 297.
— Beccarii, 291.
— cuspidata, 288.
— dubia, *A. W. Hill*, (with figs.) 294.
— Forbesii, 295.
— Gautheriana, 289.
— Horsfieldiana (with figs.), 294.
— Ignatii (with plate), 281, 290.
— Kerstingii, 302.
— lanata, *A. W. Hill*, (with figs.) 299.
— lanceolaris, *A. W. Hill*, 295.
— laurina, 297.

Strychnos ligustrina, 286.
— lucida, 287.
— luzonensis, 297.
— Merrillii, *A. W. Hill*, 297.
— monosperma, 294, 302.
— multiflora (with plate and figs.), 300.
— ovata, 295.
— palembanica, 293.
— polytrichantha (with figs.), 298.
— pseudo-tieute, *A. W. Hill*, 287.
— pubescens, 293.
— spp., 302.
— Tieute, 292.
— Vanprukii, *Craib*, 421.
— villosa, *A. W. Hill*, 296.
— vitiensis, *A. W. Hill*, 295.
Styrax Lacei, *W. W. Smith*, 344.
— mollis, *Dunn*, 273.
— roseus, *Dunn*, 273.
Swertia Lacei, *Craib*, 191.
Symbegonia fulvo-villosa, 475.

T.

Takeda, H., Japanese species of Cerastium, 100.
— —, some Potentillas from the Far East (with figs.), 250.
Taylor, W., 117.
Tetrastigma cruciatum, *Craib et Gagnep.*, 30.
Thomas, H., 65.
Thonningia angolensis, *Hemsl.*, 151.
— dubia, *Hemsl.*, 152.
— elegans, *Hemsl.*, 152.
— ugandensis, *Hemsl.*, 152.
Thunbergia affinis, *Craib*, 434.
Thyridaria tarda, 120.
Timbers :—
Acacia, false, 219.
Ash, white, 217.
Beechwood industry of the Chilterns, 109.
Birch, black, 220.
—, canoe, 221.
—, cherry, 220.
—, paper, 221.
—, red, 221.
—, river, 221.
—, yellow, 221.
Cherry, black, 218.
Cottonwood, 309.
Hickories, 304.
Locust, black, 219.
Maple, Oregon, 222.
Timbers—*cont.*
Maple, red, 304.
—, sugar, 303.
Oaks, American, 307.
Rimu, 121.
Walnut, black, 215.
Togoland, rubber cultivation in, 97.
Torenia atropurpurea, 324.
Trachelospermum siamense, *Craib*, 414.
Transvaal grasses, economic notes on, 158.
Trees and shrubs, new, garden notes on (with plate), 327.
— suitable for experimental forestry, 211, 303.
Trigonostemon Murtoni, *Craib*, 464.
— reidioides, *Craib*, 464.
Tulip tree, 214.
Tylophora Kerrii, *Craib*, 417.
— sootepensis, *Craib*, 417.

U.

Unona dubia, *Craib*, 10.
Urceocharis edentata, 125.
Urera Woodii, *N. E. Brown*, 96.
Ustilago polytriadis, *Massee*, 224.
— trichopterygis, *Massee*, 224.
— vastatoria, *Massee*, (with figs.) 224.
— virens, 224.
Utricularia Kerrii, *Craib*, 429.
— sootepensis, *Craib*, 430.

V.

Veronica Birleyi, *N. E. Brown*, 345.
Viburnum Henryi, 351.
— inopinatum, *Craib*, 385.
— rhytidophyllum, 323.
Villaresia mucronata, 246.
Viscum (Ploionixia) decurrens, *Baker et Sprague*, 182.
— (Aspidixia) shirense, *Sprague*, 184.
— — ugandense, *Sprague*, 183.

W.

Walnut, black, 215.
Wendlandia glabrata, var. floribunda, *Craib*, 386.
Wild Fauna and Flora of Kew, additions to (with fig.), 365.